

INDIAN MINES ACT, 1923

ANNUAL REPORT

OF THE

CHIEF INSPECTOR OF MINES IN INDIA

FOR THE YEAR ENDING

31st DECEMBER 1929



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FROM

R. R. SIMPSON, Esq., C.I.E., M.Sc.,

CHIEF INSPECTOR OF MINES IN INDIA,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,

DEPARTMENT OF INDUSTRIES AND LABOUR.

Dated Dhanbad, the 31st May 1930.

SIR,

I have the honour to submit the report upon the inspection of mines in British India for the year ending 31st December 1929.

INTRODUCTION.

The Indian Mines Act, 1923, applies to British India only and not to the Indian States. For the complete figures of production of all minerals raised from excavations of all depths in British India and the Indian States reference may be made to the statements of the "Mineral Production of India" published annually in the Records of the Geological Survey of India, and to the "Quinquennial Review of the Mineral Production of India" published every five years by the same Department. Detailed information of the mineral industries in Mysore—where the Kolar goldfield is situated—and Hyderabad (Nizam's Dominions) is given in the annual reports of the Chief Inspectors of Mines in those States.

Section I.—Persons employed.

During the year 1929 the daily average number of persons working in and about the mines regulated by the Indian Mines Act was 269,701, as compared with 267,671 in the previous year. The increase was 2,030 persons, or 0·76 per cent. Of these persons 116,945 worked underground, 82,963 in open workings and 69,793 on the surface. The distribution in respect of sex was as follows:—

	Males.		*Females.*	
	1929.	1928.	1929.	1928.
Underground . . .	92,856	86,155	24,089	31,785
In open workings . .	54,235	51,005	28,728	28,453
Surface	51,954	52,430	17,839	17,843
	199,045	189,590	70,656	78,081

The most remarkable feature of this table is the reduction of the number of women employed underground from 31,785 in 1928 to 24,089 in 1929. This reduction by 24 per cent. was to some small extent due to the fact that the employment of women underground in mines

other than coal and salt mines was prohibited with effect from 1st July 1929. It was, however, mainly due to the fact that with effect from the same date the number of women employed underground in coal mines was restricted to 29 per cent. of the total labour force employed underground, which was the actual percentage so employed in 1928. In that year and in previous years the percentage fluctuated from day to day and from mine to mine. As under [illegible] the percentage could not exceed what was [illegible] fall was inevitable; the percentage for c[illegible] mines 21, as compared with 29 per cent. and 27 per cent., respectively, in 1928.

The provincial distribution of the females who worked underground was:—

Province.	Mineral worked.										Total.
	Coal	Mica	Salt	Manganese.	China clay	Steatite.	Fire-clay	Ochre	Asbestos.	Tin Ore	
Bengal	6,827	...	...	...	..	...	..	...	..	...	6,827
Bihar and Orissa.	14,2[illegible]6	893		142	6	6	...	...	..	...	15,263
Central Provinces	837	.	.	185	...	...	9	1	...	.	1,032
Madras	..	588	...	...	...	...	..	..	41	...	629
Panjab			333	..	...	...	...	..	..	...	333
Ajmer-Merwara.	.	2			.		...	...	...	...	2
Burma	...			...	.	...	...	..	.	3	3
	21,880	1,483	333	327	6	6	9	1	41	3	24,089 females employed underground
									Total for 1928		31,785

The number of persons employed in coal mines was 165,658, which is 1,519 more than the number employed in 1928. Of these persons 42,808 were coal-cutters, 12,592 were male loaders and 42,477 were females—chiefly loaders.

The number of persons employed in metalliferous (including mica, stone, clay and salt) mines was 104,043, which is 511 more than the number employed in 1928. 75,864 were males and 28,179 were females. Of these females only 2,209 worked underground.

In [illegible] was a sufficient supply [illegible] seasons of the year. [illegible] previous year. In 1928 there were more cases of cholera and small-pox than in 1927,

and in 1929 still higher figures were reached. The death rates in the Asansol and Jharia Mining Settlements rose to 23·2 and 19·57 per thousand, respectively, as compared with 16·62 and 16·73 per thousand, respectively, in the year 1927.

At most of the mines for other minerals than coal in the province of Bihar and Orissa there was an abundant supply of labour. Wages remained at their previous level and there were no strikes. The general health of the labourers was good.

At the collieries in Upper Assam owned by the Assam Railways and Trading Company, Limited, the total number of workers resident at the mines was 4,177. Although 865 persons were repatriated only 433 persons were recruited. In the neighbourhood of the coal mines large areas of land have been reclaimed from the primeval jungle by labourers originally recruited by the Company. A considerable proportion of the labour is now drawn from the large villages occupied by these settlers. They prefer to do the work of coal-cutters and believe in a short shift, few of them working underground more than five hours per day. Wages remained the same and there were no strikes or epidemics. The labour force is mainly drawn from Chota Nagpur, but in one of the Company's quarries there are Nagas, Nepalese, Tibetans, Baluchis and Chinese. The workmen are all very keen on foot ball, and a colliery league has been organised, the teams including representatives of the underground workers, surface workers and office staff. A shield for competition has been presented by the Colliery Superintendent, and the Company gave silver medals to the winning team. The matches are very popular and great enthusiasm is shown.

In the Central Provinces labour was plentiful and there was a tendency for wages to be lower than in 1928. At certain of the manganese and coal mines there were epidemics of influenza and Cholera, but the general health of the workers was better than in the previous year. Adequate medical relief was provided by the larger concerns. As mentioned in last year's annual report the premier manganese mining company in India has established a well equipped infant welfare centre at their Kandri mine. Attempts have been made to popularise the services that can be given in the institution, and as a result a slightly better attendance at the hospital was recorded during the year. It has, however, been the experience that the mine worker does not avail herself of the benefits of the institution as readily as might be desired. At the Balaghat manganese mine the prohibition of the employment of women underground created a slight disturbance, but for a short time only. At this mine there was a certain increase in diseases of the respiratory systems amongst the underground workers, but there was no evidence that this was due to silicosis. The locality is malarious and those who suffer from the disease are liable to chill on encountering a change of temperature. At the mines worked by the leading companies in the Central Provinces water supply, sanitation and housing accommodation are being steadily improved, and increasing attention is being paid to the education of the children of the miners.

From the United Provinces the Deputy Commissioner, Banda district, reports that " there was a partial strike in December at the Bharatkup stone mine. The labourers stood out for return fares to their homes, even when they had been engaged by the contractor on the spot. The

contractor made this concession to them and the strike ended ". The mine is owned by the Public Works Department. The Collector, Hamirpur district, reports that the rates of wages paid to the unskilled labourers in the soapstone mines ranged from annas two to four per day.

In respect of labourers in the Jhelum district, Punjab, the Deputy Commissioner reports that " there was no epidemic disease and the general health of the miners has been good throughout the year. * * * * * The hereditary miners of Khewra gave a cordial reception to the members of the Royal Commission on Labour and entertained them at a tea party. * * * * *. With the introduction of machinery and the latest methods of excavation in the salt mines at Khewra there is still a certain amount of unemployment among hereditary miners, and the matter is receiving the attention of the Salt Department * * * * *. There is a District Board school both at Khewra and Dandot but the miners do not take any appreciable interest in the education of their children, more especially the girls. The Salt Department might well set apart annually in consultation with the Rural Community Council, Jhelum, a small sum of money for the *uplift* of the permanent labour working in the salt mines and particularly for the education of the new generation on right lines Compulsory free education for boys and girls below the age of ten should be introduced and children of these hereditary miners must be taught clean habits, the evils of wasting their hard-earned money on jewellery and ceremonies, the advantage of vaccination and of quinine in times of malaria and the many other simple things which will mean vastly improved conditions of life. It is essential that all such useful things should be imprinted on the minds of the children of the miners, and the girls who will one day be wives and mothers must be taught the simple domestic arts and the ways in which they can keep their homes happy and healthy ".

In the Nellore district of Madras there was a plentiful supply of cheap labour at the mica mines. The anti-hook-worm treatment rendered by the specialist deputed for the purpose is said to have improved the condition of the labouring population generally.

In the Northern Shan States, Burma, at the lead-silver, iron and limestone mines worked by the Burma Corporation Limited the general improvement in labour conditions was maintained. In all departments of the Company's activities 16,457 persons were employed. There was no alteration in the standard rates of wages, and no outbreak of epidemic disease at the mine. The Superintendent, Northern Shan States, reports as follows:—" The Burma Corporation employs a large medical staff including two English doctors and several European nurses and the sanitary organisation is admirable; it is now years since an epidemic has obtained a foothold. Malaria continues to levy a heavy toll (though not as heavy as some years ago) but steps are now being taken to engage an anti-malaria staff headed by an English specialist. In addition to those provided for Europeans, Asiatic employees are provided with four tennis courts, two badminton courts, cricket, football and hockey grounds ".

In the Thaton district the majority of the labourers employed at the stone mines were Indians recruited locally. At the Public Works Department quarries at Mokpalin, however, jail labourers were em-

ployed to a considerable extent. The stone quarries at Myogyi-Lawkotaya and Shwegyin in the Toungoo district were worked entirely by prisoners.

In the Tavoy and Mergui districts there was a shortage of labour, but it was not acute. There were no epidemics or strikes. The Deputy Commissioner reports that " there was a good deal of unpleasantness at some of the mines owned by the Consolidated Tin Mines of Burma Limited. Large number of Yunnanese coolies, dissatisfied with the conditions and complaining that they had been recruited under false pretences, threatened to do violence to the contractors under whom they worked, and trouble was only averted by the company sending them all back to Lashio (rail-head in the Northern Shan States) at the company's expense ".

Figures showing the average output of coal per person employed are given below:—

——	Tons of coal per person employed.			
	Underground and in open workings		Above and below ground.	
	1929.	1924-28.	1929.	1924-28.
British India	193	180	135	120
Bengal and Bihar	197	186	138	123
Assam	105	115	78	74
Baluchistan	69	57	52	36
Central Provinces . . .	164	131	115	87
Punjab	101	87	58	51

There was once more a small improvement in the average, and, as in the previous years, the improvement may be ascribed to the greater use of coal-cutting machinery. In comparing the figures in the tables with similar figures in other countries it should be remembered that both men and women are employed in Indian mines. In 1928 the output of coal per person employed above and below ground in the United Kingdom was 253 tons. In 1927 comparative figures in certain other countries were :—Japan, 136 tons; Transvaal, 543 tons; United States of America, 706 tons.

In the table on page 6 figures are given of the average daily wages paid in December in each important mining field in India. In the coalfields the rates were practically the same as in the previous year. There was a slight fall in the wages of lead miners and a remarkable reduction of 29 per cent. in the wages of tin miners in Burma. The wages of mica miners both in Madras and in Bihar and Orissa were slightly less, and there was the same tendency at stone and limestone mines in the Central Provinces and the United Provinces.

Average daily earnings in rupees, annas and pies during the month of December 1929 in each important mineral field in British India.

Mineral Field.	Underground						Open workings						Surface.			
	Overmen and Sirdars — Foremen and Mates	Miners	Loaders	Skilled Labour	Unskilled Labour	Females	Overmen and Sirdars — Foremen and Mates	Miners	Loaders	Skilled Labour	Unskilled Labour	Females	Clerical and Supervising staff.	Skilled Labour.	Unskilled Labour.	Females.
Jharia Coalfield (Bihar and Orissa)	1 4 9	0 13 6	0 11 0	0 12 9	0 9 9	0 8 0	1 3 0	0 13 9	0 11 6	0 10 3	0 10 0	0 9 0	1 6 9	0 13 3	0 9 9	0 6 9
Raniganj Coalfield (Bengal)	1 2 3	0 13 0	0 10 3	0 12 3	0 9 0	0 7 6	0 14 0	0 9 0	0 7 0	0 1' 0	0 8 0	0 6 3	1 3 0	0 11 6	0 8 6	0 6 0
Giridih Coalfield (Bihar and Orissa)	1 7 3	0 12 9	0 12 0	0 14 3	0 8 0	0 7 0	0 14 3	0 11 0	0 6 3	0 9 0	0 6 0	0 6 0	1 6 3	0 14 0	0 8 0	0 5 9
Assam Coalfields	1 7 6	1 5 6	1 3 6	1 2 3	0 14 6	.	1 2 6	1 1 0	1 0 3	1 2 3	0 15 9	0 13 6	1 8 6	0 15 9	0 12 0	0 8 0
Punjab Coalfields	0 15 0	0 14 3	0 12 6	0 12 0	0 9 3		...	..				.	0 15 0	0 14 6	0 11 3	0 6 9
Baluchistan Coalfields	1 7 3	1 2 0	1 1 0	1 4 9	..		.						0 15 6	0 14 9	1 3 0	...
Pench Valley Coalfield (Central Provinces)	1 4 3	1 2 0	0 10 6	0 10 6	0 9 3	0 7 6	...	..		.		.	1 4 6	0 10 6	0 10 3	0 5 3
Bihar and Orissa Mica	0 9 0	0 7 3	...	0 6 9	0 5 0	0 4 0	0 11 0	0 7 0		0 7 0	0 4 9	0 4 0	1 0 0	0 9 0	0 6 3	0 4 0
Madras Mica	0 8 9	0 7 0	..	0 6 0	0 5 6	0 5 6	0 6 6	0 5 3		0 5 9	0 6 9	0 3 6	0 12 3	0 7 8	0 5 0	0 3 6
Central Provinces Manganese	1 8 2	0 10 3	..	1 0 0	0 7 0	.	1 0 3	0 8 9		0 14 3	0 7 9	0 5 3	1 7 0	1 0 9	0 8 0	0 4 9
Madras Manganese	...	..	...	..	...	.	0 13 9	0 6 3	..	0 6 3	0 7 0	0 4 3	1 5 0	0 10 0	1 1 6	0 4 9
Central Provinces Limestone	..	.	..	..	...	.	0 13 6	0 6 9	.	0 14 9	0 8 9	0 4 6	1 7 6	0 7 0	0 10 6	0 3 0
Bihar and Orissa Iron	...	...	...		..	..	1 0 6	0 10 3		0 13 6	0 7 9	0 5 9	2 0 6	1 4 0	0 6 9	0 5 0
Burma Lead	16 7 6	1 12 0	...	2 11 9	1 5 6	...	4 13 3	...	..	.	1 0 0	.	2 15 9	3 13 0	1 6 3	...
Burma Tin	6 5 3	1 9 0	.	1 4 6	1 8 0	1 1 0	3 9 6	1 6 3	...	1 11 6	1 5 0	0 13 0	3 3 9	2 9 6	1 3 0	0 15 3
Punjab Salt*	1 9 6	1 6 3	.	1 1 3	1 10 9	0 0 0	2 7 3	3 2 0	...	.	.	..	0 12 6	1 1 3	0 13 8	...
Bihar and Orissa China Clay	0 10 3	1 7 6	...	.	0 6 3	0 4 6	0 10 6	0 4 0	.	0 10 0	0 6 0	0 3 3	1 1 9	0 9 3	0 6 6	0 4 0
Punjab Slate	0 8 0	0 7 0	..	0 8 0	0 8 0	...	0 12 0	0 7 9	.	0 7 3	0 4 6	1 4 9	..	.	0 7 3	..
United Provinces Stone	..	...	...	...	..	.	0 10 3	0 8 0	...	0 5 0	0 5 9	0 4 9	0 15 6	0 8 9	0 13 9	0 4 0

*The General Manager of the Salt mines explains that there was no such marked fall in wages as the figures indicate. The figures are for December, and in that month the output of salt is severely restricted. As the strength of the labour force was not reduced individual wages were lower.

With effect from the first day of July 1929 the employment of women underground in mines other than coal mines in Bengal, Bihar and Orissa and the Central Provinces, and salt mines in the Punjab, was prohibited. In the coal mines mentioned above women continued to be employed in the underground workings after 1st July 1929, but their total number was restricted to 29 per cent. of the total number of persons, both men and women, employed underground in the mine concerned. This permitted percentage will be reduced by 3 every year till finally extinguished in July 1939. Similarly the number of women who may be employed underground in the salt mines will gradually decrease from 40 per cent. in 1929-30 to *nil* in July 1939. A copy of the regulations for prohibiting the employment of women underground in mines will be found in Appendix IV, Statement No. 3. As stated on an earlier page the immediate effect of these regulations has been a reduction of 24 per cent. in the number of women employed underground. In spite of this large reduction there has so far been very little complaint of inconvenience to mineowners or loss of employment. At a certain mine metal checks have been issued to the women, and no woman is allowed to go underground who is not in possession of a check. The attendance of the women is being carefully recorded, and the annual quota for exclusion will be drawn from those who have been least regular in attendance.

Although the provisions of the Indian Workmen's Compensation Act, 1923, are gradually becoming better known yet there is reason to believe that at certain mines obligations under the Act are evaded. Contractors under the Public Works Department are perhaps the worst offenders, and it is desirable that the departmental officer concerned should in every case of accident be required to satisfy himself that just claims for compensation are being met. In this matter the Mines Department does all that it can to assist injured workers and dependants, and has closely co-operated with the Commissioners for Workmen's Compensation It is, however, difficult to get into touch with dependants in out of the way places. It would seem desirable that machinery should be devised whereby the district officer should be furnished with information as to the steps taken to compensate persons injured and the dependants of persons killed by accidents in mines.

In the Annual Report for 1927 it was stated that in the Jharia coalfield area with a population of 376,000 (including 138,000 rural inhabitants) there were 99 schools, of which 16 were colliery schools with an aggregate number of 617 pupils. There has since been no increase in the number of colliery schools and the number of pupils in such schools is practically the same. The total number of the schools has fallen from 99 to 88. It is regrettable that although children were excluded from the mines as long ago as in 1924 there has been as ye no concerted movement for bringing into force the provisions of the Bihar and Orissa Primary Education Act, 1919, in the Jharia coalfield.

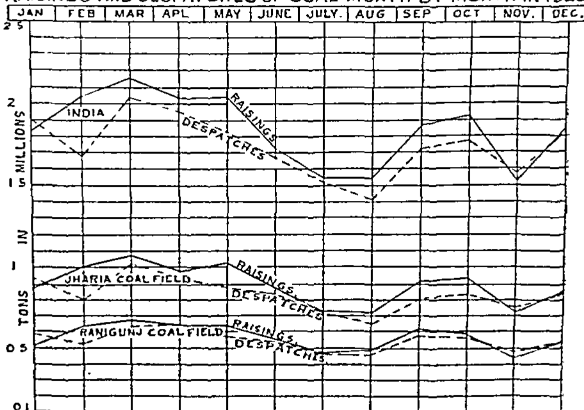
Section II.—Output of Minerals.

COAL.

The statement given below shows the output of coal in the various provinces in British India during the years 1928 and 1929:—

	Output in tons. 1929.	1928.
Assam	321,545	297,501
Baluchistan	10,984	11,217
Bengal	5,965,101	5,639,993
Bihar and Orissa	15,085,074	14,788,580
Central Provinces	882,331	732,353
Punjab	43,136	46,152
	22,308,174	21,515,796

The total output in 1929 was 22,308,174 tons of a declared value of Rs. 8,45,54,438. The increase in the output was 792,378 tons or 3.68 per cent. This production was a record, being 548,447 tons in excess of the previous maximum attained in 1919. The opening stocks in 1929 were 1,592,841 tons and the closing stocks 844,240 tons, which is 781,478 tons less than in the previous year, and nearly two million tons less than the closing stocks at the end of 1925. In the chart which appears below the raisings and despatches of coal are shown month by month.



The maximum output was obtained in March and, except for a stationary period in April and May, was followed by a continuous fall to the low level maintained in the period July-August. This was followed by a large increase in September and a further but slower increase in October. In November the output fell to the minimum for the year, and thereafter rose to the usual average quantity obtained in the month of December. In January and November the despatches were in excess of raisings. The despatches were lowest in the month of August.

The total despatches of coal were 20,612,567 tons, and 1,239,372 tons, or 5·56 per cent. of the raisings, were consumed on the collieries. The proportion of coal used on the collieries has steadily decreased from a maximum of 14·31 per cent. in 1922 to 5·56 per cent. in 1929. The present figure is the lowest recorded and 0·32 per cent. less than in the previous year. Considering the increasing extent to which labour saving appliances are being used the figure is highly creditable to the engineers employed in the coalfields.

The quantity of coal used for coking at the collieries was 1,204,836 tons, and 757,727 tons of soft coke and 72,453 tons of hard coke were made. The quantity of soft coke manufactured at the collieries for domestic consumption increased by 10 per cent., as compared with 13 per cent. in the previous year and 18 per cent. in the year 1927. It may be hoped that the efforts of the Indian Soft Coke Cess Committee will be successful in maintaining the expansion of this valuable market for second class coal. The quantity of hard coke made at the collieries is small. Most of the hard coke is now made at coke making plants which do not come under the Mines Act, and 1,741,961 tons of coal were despatched to coke-making plants of this kind in 1929. This is an increase of 57 per cent. on the figure recorded in the previous year when there was a prolonged strike of iron and steel workers at Jamshedpur. Analyses of the figures relating to the output of coal and the manufacture of coke will be found in Appendix I, Table No. 3.

The output in Bihar and Orissa increased by 296,494 tons, and in Bengal the increase was 325,111 tons. In the Central Provinces the output increased from 732,353 tons to 882,331 tons. There was an increase of output in Assam and small decreases in Baluchistan and the Punjab where the importance of coal mining is gradually declining. Figures of output for the principal coalfields are as follows:—

Coalfield	1929	1928.	Percentage of increase + or decrease —
Jharia	10,785,745	10,665,479	+ 1·13
Raniganj	6,828,053	6,460,490	+ 5·69
Bokaro	2,118,703	2,026,791	+ 4·53
Giridih	771,165	804,118	— 4·10
Karanpura	467,127	200,493	—19·62
Pench Valley . .	680,270	[illegible]	—22·24
Assam	321,515	[illegible]	+ 8[illegible]

The output of the Jharia coalfield was again [illegible] little [illegible] of that of the previous year. There were [illegible] the B[illegible] Bokaro and Assam fields and large increases in [illegible]

Valley coalfields. There was again a small decline in the output of the Giridih coalfield.

The indications of an improvement in the market for Indian coal, faintly apparent at the end of 1928, became more evident in the early months of 1929. The factors responsible for the improvement were increased demands for export and for use on the Indian railways, and an understanding between certain of the leading producers that coal should not be sold at uneconomic prices. The tone of market at the end of 1929 was accordingly somewhat more hopeful than for some years past. There was an occasional scarcity of wagons, particularly early in the year when wheat was being transported from Calcutta to meet the shortage caused by failure of the wheat crop in North Western India. The shipments of coal from the port of Calcutta were 2,600,015 tons, and the exports 726,610 tons, as compared with 626,343 tons in 1928. The increase in the exports was mainly due to an expansion of the exports to Hongkong. The Indian Coal Grading Board continued to give satisfaction in the work of grading coal and granting certificates of the quality and condition of coal intended for export.

In the Central Provinces there was a steady and increasing demand for coal and outputs were correspondingly higher.

In Assam the output was restricted until the end of March, but this was followed by improvement and at the end of the year prospects were much brighter.

The number of collieries using electric energy was 114, and the aggregate horse power employed at collieries increased from 64,478 to 70,033, *i.e.*, by 8·6 per cent. During the year electric plant was installed and brought into operation in eight additional mines; one mine using electricity was closed down, and electric plant was withdrawn from two mines.

The number of coal-cutting machines in use increased from 146 to 173; of these 160 were driven by electricity and 13 by compressed air. 78 machines were at work in the Jharia coalfield, 91 in the Raniganj coalfield and 4 in the Central Provinces. Coal-cutting machines were in use in 52 coal mines, and the total area undercut by the machines was 9,769,640 sq. feet, as compared with 8,372,689 sq. feet undercut in the previous year. The increase in the use of machines for mining coal in the Raniganj coalfield is remarkable.

Attention is invited to a new type of cable known as "Pliable armoured cable". This cable has proved very suitable for use with portable apparatus such as conveyors and small pumps, etc., that are moved to new positions at intervals. The cables have the flexibility of the cab tyre sheathed trailing cable, and their armouring can be securely attached to apparatus supplied by them, thus obtaining the full security pertaining to the elimination of unarmoured trailing cables.

Electricity was used at 23 metalliferous mines, and the aggregate horse power installed was 9,043, an increase of 33 per cent.

Statistics of the electrical plant in use at mines in the various provinces of British India and in certain mine fields are contained in Appendix I, Tables 7, 8 and 9.

During the year 2,354,545 lb. of gunpowder, 248,587 lb of high explosives, and 141,802 lb. of "permitted" explosives were used at

coal mines under the Act. These figures compare with 2,186,269 lb. of gunpowder, 250,590 lb. of high explosives, and 108,467 lb. of "permitted" explosives used in 1928. A statement of the kind and quantity of explosives used during the year in the different kinds of mines under the Act is given in Appendix I, Table 12.

In Appendix I, Table 11, particulars are given of the number of mechanical ventilators in use in coal mines under the Act. In 1929, 74 mechanical ventilators were in use, the number being the same as in the previous year.

In Appendix I, Table 11, particulars are given of the number of safety lamps in use in coal mines under the Act. 20,239 safety lamps were in use in 1929, as compared with 17,798 in 1928.

Iron ore.

The production of iron ore was 1,436,385 tons, valued at Rs 33,00,846, as compared with 1,206,754 tons in 1928, the increase being 19·03 per cent.

Manganese ore.

There was an increase of nearly 5 per cent. in the output of manganese, the figures of production being 750,908 tons, valued at Rs 89,93,832, as compared with 716,626 tons in 1928. There was a considerable drop in price, and the drop is said to have been due chiefly to the price-cutting policy of the Russian Soviet Government and to some extent to the expectation of cheap high grade ore from South Africa being placed upon the market. Another factor is said to have been the amount of Governmental assistance given to the Brazilian mining industry by reductions in railway freight.

The f.o.b. price for first grade ore was 11·91*d.* per unit, whilst the average for all grades was 11·43*d.* These prices, however, were not truly representative as they included benefits obtained by long contracts and by participation in smelting profits in England. Sea freights to Europe were about 18*s.* per ton at the beginning of the year, but towards the end of the year they fell to about 16*s.* 6*d.* per ton.

A reduction of railway freight by Rs. 1-13-6 per ton was obtained on all ore despatched between 1st August 1929 and 1st August 1930 in excess of the average tonnage of ferro making grade ore railed during the previous three years. Representations for an extension of this concession to the period 1930-31 have been made.

Lead-Silver ore.

The output of lead-silver ore from the Bawdwin mine in the Northern Shan States, Burma, was 464,691 tons, as compared with 443,654 tons in 1928. There was, therefore, an increase of 4·74 per cent. 79,033 tons of refined lead, 1,200 tons of antimonial lead, 7,280,517 ounces of refined silver, 11,303 tons of copper matte and 3,065 tons of nickel speiss were produced. The experimental zinc plant at the Namtu mill produced 58,435 tons of zinc concentrates.

The average values of metals extracted were as follows:—Refined lead, Rs. 312-1-0 per ton; antimonial lead, Rs. 280-14-8 per ton; and refined silver, Rs. 1-7-7 per troy ounce.

The quantities of materials used for the purpose of fluxes were as follows:—Iron ore 45,946 tons; limestone 41,552 tons; quartz rock 1,019 tons; and iron pyrites 3,066 tons.

The ore-dressing plant was extended and has now a capacity of 45,000 tons per month, representing an increased capacity of 50 per cent. Modern flotation machines have replaced the less efficient machines hitherto in use, and this has enabled an increased recovery of both lead and zinc to be made.

The Marmion shaft has been sunk to the tenth level, and has now a total depth of 1,213 feet Practically the whole of the fire area has been recovered Parts of the area are still very warm, but they are gradually cooling down. As the extraction of the ore body proceeds the effect on the surface becomes more pronounced. Up to date the subsidence has been not less than 10 feet, but has been so gradual that there has been no difficulty in building up the road and railway. The cracks in the bed of the river silt up and little water finds its way into the mine The magnitude of the mining operations in progress is shown by the fact that the annual consumption of mine timber was 18,000 tons.

For the treatment of ore from Bawsaing mine in the Southern Shan States an ore dressing plant has been ordered.

GOLD.

The output of gold in 1929 was 30 ounces, all of which was obtained from the Kundarkocha mine in the Singhbhum district.

TIN AND WOLFRAM ORES.

The output of tin ore was 3,384 tons, valued at Rs. 53,64,516, as compared with 2,777 tons in 1928. 1,061 tons of wolfram ore, valued at Rs. 11,97,230, were produced, as compared with 622 tons in 1928.

The remarkable increase in the output of wolfram was due to the market price of that mineral having returned to a remunerative level. Work has been resumed at many mines producing ores mainly composed of wolfram, whereas in recent years the price of the mineral has only enabled it to be mined in conjunction with tin ore. On the other hand tin production has been considerably affected by the fall in the price of that metal, and towards the close of the year the production was being curtailed and prospecting work was being suspended. Two new dredges commenced work in the Tavoy district and one of them is said to be the largest tin dredge in the world. There has been a considerable increase in the use of hydro-electric power and hydraulicing equipment. The need for further improvement in means of communication is stressed by the mining community.

CHROMITE ORE.

The production of chromite ore was 21,054 tons, valued at Rs. 3,35,201, as compared with 17,167 tons in 1928.

COPPER ORE.

The output of copper ore was 76,831 tons, valued at Rs. 4,80,194, as compared with 18,055 tons in 1928. The whole of the production

came from the Mosabom mine in the Singhbhum district. The production of refined copper ingots and slabs was 1,635 tons, all of which were sold in India at an average price of Rs. 1,200 per ton. A rolling mill for sheet copper and yellow metal is under construction.

As mentioned in an earlier paragraph 11,303 tons of copper matte were produced in the smelting of lead-silver ore in Burma.

Zinc ore.

From the composite ore mined at the Bawdwin mine in the Northern Shan States, Burma, 58,435 tons of zinc concentrates were produced for shipment The production in 1928 was 64,122 tons.

Gems.

The production of the Burma ruby mines coming under the Mines Act was as follows —

	Carats.	Value.
		Rs.
Rubies	37,640	1,70,426
Sapphires	2,530	10,992
Spinels	3,480	342
	43,650	1,81,760

The actual mining operations of the Burma Ruby Mines Limited were confined to Kathe mine. Tributors continued to work the Company's old mining areas in Mogok and Kathe, but on a restricted scale.

The gem market was very good for the greater part of the year, but the slump on the New York Stock exchange had an adverse effect towards the end of the year.

The Government revenue from royalties paid by the native licensees was Rs 2,38,760, as compared with Rs. 2,41,660 in 1928. The finding of several large stones of high value, notably a sapphire sold for one and three-quarter lakhs in September, encouraged the native licensees.

Mica.

The quantity of mica consigned was 49,437 cwt., valued at Rs. 26,51,293, as compared with 44,629 cwt. in 1928 The increase was nearly 11 per cent. The output of dressed mica in 1929 was 53,065 cwt., as compared with 51,390 cwt. in 1928.

The demand for mica was more active and sustained than in the previous year, and, as a result there was an improvement in price. The question of legislation to prevent the theft and illicit working of mica was revived and a revised Bill was introduced in the Bihar and Orissa Legislative Council during the year and has since been passed as the Bihar and Orissa Mica Act, 1930 (I of 1930).

In the Hazaribagh mica field in Chota Nagpur there is an increasing tendency to re-open old mines which have been closed down for a considerable number of years, rather than to exploit new surface outcrops. Few of the mines have been worked to a depth greater than 100 feet and it is often found that the productive vein has not been exhausted by the previous workers.

From the Nellore mines in the Madras Presidency there was a good demand for best stained quality mica and, in a lesser degree, for hard spotted material. The quantity of spotted mica produced is increasing yearly, but competition is keen. From Rhodesia, where mica mining is in its infancy and the mines are yet shallow, large quantities of spotted mica are being produced at prices with which the Nellore mines are barely able to compete. The old haphazard method of quarrying the vein down to a limit of extraction and then indiscriminately driving tunnels along the richest stringers or shoots is still the common practice in Nellore. At no mine has any proper system of stoping been introduced. When it is considered that about 90 per cent. of the mined material is spoil which under the present methods has to be hauled out of the mine and dumped [illegible] ear to have grea[illegible] of mechanical [illegible] rs. not even by the owners whose mines have reached depths exceeding 150 feet, and at the mines where haulages are in operation their use is not fully understood and they are not utilised to their greatest advantage. It is probable that more haulages will now be installed to meet the difficulties arising from the prohibition of the employment of women in underground workings. Formerly a large number of women were employed in carrying spoil out of the mines.

Rock-salt.

The production of rock-salt was 148,496 tons, as compared with 145,543 tons in the previous year.

Limestone.

The reported production of limestone was 1,313,647 tons, valued at Rs. 18,74,081, as compared with 1,404,578 tons in 1928.

Stone.

Returns were submitted by the owners of one hundred and seventy-six stone mines, and the figures of production were as follows:—1,489,768 tons of igneous rock, 847,568 tons of unspecified rock, 78,069 tons of laterite, 78,413 tons of sandstone, 6,994 tons of gravel and 1,135,734 tons of murum. The total production was 3,636,546 tons, as compared with 3,155,379 tons in 1928. This increase should not be considered a sign of increased industrial activity. It arises from the fact that returns were received from a larger number of mines.

Clays.

From the twenty-three clay mines from which figures were obtained 73,505 tons of fire-clay, 11,728 tons of china clay and 124,531 tons of ordinary clay were produced.

OTHER MINERALS.

53,369 tons of slate, valued at Rs. 2,56,549; 22,134 tons of magnesite, valued at Rs. 1,08,72?; 9,044 tons of bauxite, valued at Rs. 72,352; 6,086 tons of gypsum, valued at Rs. 13,512; 3,616 tons of kyanite, valued at Rs 36,193; 2,319 tons of steatite, valued at Rs. 51,958; 1,768 cwts. of asbestos, valued at Rs. 3,160. 1,185 tons of ochre, valued at Rs. 6,745; and 802 tons of barytes, valued at Rs. 5,151 were produced. Small quantities of graphite, apatite, corundum, bismuth and fuller's earth were also produced

Section III.—Accidents.

During the year 1929 at mines regulated by the Indian Mines Act, 1923 there were 212 fatal accidents, which is 9 less than in 1928 and the same as the average number in the preceding five years.

These accidents involved the loss of 266 lives, which is 7 more than in 1928 Of the persons killed 215 were males and 51 were females. In one case ten lives, in one case six lives, in two cases five lives, in three cases four lives, in four cases three lives, and in fifteen cases two lives were lost

In addition to the fatal accidents there were 651 serious accidents involving injuries to 672 persons, as compared with 654 serious accidents involving injuries to 683 persons in the previous year. No record is maintained of minor accidents. The serious accidents reported are those in which an injury has been sustained which involves, or in all probability will involve, the permanent loss of the use of, or permanent injury to, any limb, or the permanent loss of or injury to the sight or hearing, or the fracture of any limb or the enforced absence of the injured person from work for a period exceeding twenty days.

In not a few cases of accident although the injuries sustained are not severe yet death results from tetanus. At a number of mines the giving of anti-tetanus injections is becoming a recognised part of surgical treatment

The proportions of accidents which occurred to males and females underground, in open workings and on surface during the year were as follows:—

	No. of fatal accidents	No. of males killed.	No of females killed.	Death rate per 1,000 persons employed		No of serious accidents.	No. of males injured.	No. of females injured.	Serious injury rate per 1,000 persons employed.	
				Males.	Females				Males.	Females.
Underground .	153	166	40	1·79	1·66	391	366	38	3·94	1·59
Open workings .	30	27	4	0·50	0·14	82	63	25	1·16	0·87
Surface . .	29	22	7	0·42	0·39	178	159	21	3·06	1·18

In the Hazaribagh mica field in Chota Nagpur there is an increasing tendency to re-open old mines which have been closed down for a considerable number of years, rather than to exploit new surface outcrops. Few of the mines have been worked to a depth greater than 100 feet and it is often found that the productive vein has not been exhausted by the previous workers.

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Clays.

From the twenty-three clay mines from which figures were obtained 73,505 tons of fire-clay, 11,728 tons of china clay and 124,531 tons of ordinary clay were produced.

instead of using the bye-pass provided were fatally crushed under the descending cage.

Two persons lost their lives by suffocation by gas. At the time of the accident they were engaged in inspecting the stoppings surrounding an area isolated on account of fire.

The number of accidents caused by explosives was eight, or six less than in the previous year. Two of the accidents were caused by attempts to withdraw charges of explosives after they had been placed in shot holes; and two were due to persons returning to places before all the charges had exploded One accident was due to the foolish practice of drying gunpowder over an open fire; one was due to a misfire, and another to failing to take shelter when blasting was being done in a quarry. There were 28 serious accidents.

There were thirty-one fatal accidents on haulage roads. In nine cases they were caused by runaway tubs; in two cases by persons attempting to ride on tubs. Seven of the accidents took place on roads where tubs are moved by hand. The number of serious accidents was 138.

Of the three fatal accidents caused by underground machinery two were caused by coal-cutting machines. In one of these two accidents the deceased had been holding the stay prop—a dangerous practice and unnecessary if proper recesses for the prop are cut in the roof and floor. There were 14 serious accidents.

Of the six fatal accidents classified under the heading "Sundries Underground" only one calls for comment. In this case three men were killed by the air-blast caused by the fall of roof consequent on the extraction of pillars of coal in a seam 28 feet thick. There were 126 serious accidents.

Of the three fatal accidents caused by surface machinery two were due to the entanglement of clothing by revolving shafts. There were 19 serious accidents.

Twelve fatal accidents and 82 serious accidents occurred on surface railways and tramways belonging to the mine.

Two fatal and two serious accidents were attributable to electricity. In one of the cases the person killed had climbed a tower carrying a high tension transmission line. In the other fatal case death was due to electric shock by coming into contact with an electric cable which had been damaged by a fall of roof. The voltage was no more than 150 d.c.

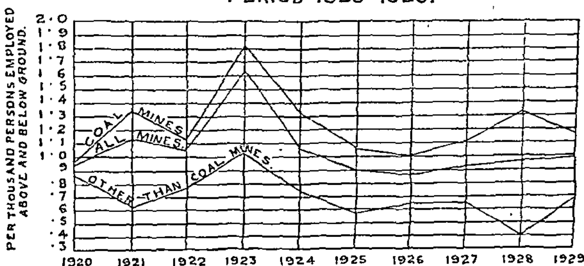
There were ten miscellaneous accidents in open workings and 12 on the surface. In five cases the fatalities were due to workmen falling from ledges in quarries, and in three cases to boulders dislodged by workmen in quarries. Of the serious accidents 40 took place in open workings and 68 on the surface.

Twenty-seven accidents causing 39 deaths were excluded from the statistics for reasons which are given in Appendix II. Eleven were cases of drowning and three of burning or asphyxiation. In one case 9 persons were killed by an explosion in a gunpowder factory, and in

another 4 persons were killed by a subsidence of surface caused by a collapse of underground workings.

The death rate per thousand persons employed above and below ground was 0·99, as compared with 0·97 in 1928. The average rate for the preceding five years was 0·95. At coal mines only the rate was 1·17, as compared with 1·33 in 1928. The decrease is satisfactory. At mines other than coal mines the rate was 0·69, as compared with 0·40 in 1928 when the rate was unusually low.

The chart below shows graphically the variations in the death rate during the decade 1920-1929.



THE HIGH RATE IN 1923 WAS DUE CHIEFLY TO AN EXPLOSION IN A COAL MINE WHICH CAUSED THE LOSS OF 74 LIVES

The death rate per million tons raised at coal mines was 8·70, while that of the preceding five years was 9·58

Deaths occurring in each class of mine were as follows:—194 in coal mines, 8 in mica mines, 6 in manganese mines, 20 in silver-lead mines, 8 in tin and wolfram mines, 4 in limestone mines, 11 in stone mines, 8 in iron ore mines, 3 in a ruby mine, 1 in a fire-clay mine, 1 in a salt mine, and 2 in a copper mine.

Eight persons lost their lives by ignitions of gas, 99 by falls of roof, 54 by falls of side, 13 in shafts, 2 by suffocation by gases, 9 by explosives, 31 by haulage, 22 by *other accidents underground* and 25 *on the* surface.

The number of serious accidents reported was 651, as compared with 654 in the previous year.

A list of the fatal accidents appears in Appendix II, Table I, where each is described briefly. The details of certain accidents are reported at greater length as follows:—

Explosions and ignitions of fire-damp.

No. 1.—The East Indian and Bengal Nagpur Railways Sawang coal mine.

In this accident six men were killed and three men seriously injured by an explosion of fire-damp in a shallow shaft sunk within a few feet of the edge of a quarry. All the coal mined in the Bokaro coalfield is obtained from the Kargali seam. At Sawang colliery the seam is 50 feet in thickness and dips at an angle varying from 1 in 3½ to 1 in 8. It has been extensively quarried, and the larger of the two quarries extends along the outcrop for a distance of 2,000 feet. In the virgin ground lying between the two quarries inclines have been driven down to a distance of 1,600 feet from the outcrop and a large area of coal has been suitably developed for extraction by machine mining in conjunction with sand stowing. During the development of these underground workings daily inspections were made with safety lamps but no inflammable gas had ever been detected, and open lights had been used throughout.

Within 10 feet of the upper edge of the larger quarry a pumping shaft, 8 feet in diameter and 65 feet deep, had been sunk. This shaft was not connected to the underground workings but was joined to the deepest part of the quarry by a drainage gallery driven on the floor of the seam, as shown on Plan A. Except for a few feet at the top where the ground was soft the shaft was unlined. It was sunk in the early part of 1925 and in the process of sinking it no gas was detected although daily inspections were made with a safety lamp.

During the rains of 1925, 1926, 1927 and 1928 two steam pumps installed near the bottom of the shaft were in constant use. From the end of November 1928 there had been no necessity to use the pumps but early in April and in preparation for the rainy season it became the intention to change one of the pumps. Under instructions Overman H. Shaw inspected the shaft at 4-30 P.M. on 15th April. His inspection was primarily made with a view to seeing that the ladders, platforms, etc., were safe, and, as the light of day was sufficient for his purpose, he did not use an artificial light. The drainage gallery was at that time free from water and there was a good current of air circulating through it and up the shaft

On the morning of the following day one of the pumps was brought to the surface and a new pump was lowered into position. At 3-30 P.M. four men were on the pump platform in the shaft and six others were at or near the top of the shaft They were engaged in adjusting the position of the pump by means of ropes and pulley blocks. No artificial lights were used as the light of day was sufficient for their purpose. While they were so employed there was an ignition of fire-damp in the shaft and a dull explosion ensued. The men at the top of the shaft were enveloped in flame and severely burnt. Three of the four men at the bottom of the shaft climbed up the ladders in the shaft and reached the surface. In doing so, however, they passed through the flames and were

fatally burnt. When shortly afterwards the manager arrived he could see jets of flame from 2 to 5 feet in length issuing from the sides of the shaft at a point about 35 feet from the surface. At 11 P.M. the coal in the sides of the shaft commenced to burn and as it was obvious that the man still at the bottom of the shaft could not be alive the top of the shaft was covered and the flames smothered.

It is impossible to say definitely how the gas became ignited. It may be assumed that one of the men at the pump had struck a match to light a cigarette. It is difficult to understand how the fact that gas was being given off escaped notice for more than four years. It may have been that on all previous occasions when lights were taken into the shaft the current of air induced by the heat of the steam pumps was sufficient to dilute the gas below the explosive limit. For several months prior to the explosion, however, the pumps had not been worked. On the day before the explosion there had been heavy rain, and at the bottom of the shaft water sufficient to cover the drainage gallery had collected. The circulation of air being thus prevented the percentage of inflammable gas in the shaft must have risen until the explosive limit being reached ignition took place. That gas is still being given off in the shaft is shown by the fact that it can be ignited at the end of a pipe inserted in the covering over the shaft. Immediately after the accident safety lamps were introduced throughout the whole of the underground workings of the colliery.

No 2.—The Nazira Coal Company, Limited's Kongon coal mine.

At this mine a coal seam, 7 feet thick, dipping at an angle of 30 degrees, is worked, and up to the time of the accident inflammable gas had only once and that several years previously been detected in the workings, although from time to time it had been detected in other seams which had been worked to some small extent. Open lights were used, but the statutory inspections were made with safety lamps.

The accident occurred at the face of a rise gallery which was being driven through a pillar preparatory to the extraction of the pillar. The gallery was 4 feet wide and 4 feet high and had been driven up a distance of 16 feet. When at 5-30 A.M. the sirdar made his inspection he found no gas and considered the place to be safe for working. At 7-45 A.M. a miner and a munshi entered the place with the intention of measuring the progress made during the previous shift. When they reached the face an accumulation of inflammable gas was ignited by the hurricane lamp which the munshi was carrying. Both men were severely burnt and the miner's injuries proved to be fatal.

The test for gas made by the sirdar must have been perfunctory; it is even doubtful if the test was made, but this could not be proved. After the accident the use of open lights in any part of the workings of the mine was prohibited, and safety lamps and permissible electric flash lights only are now being used throughout the whole of the workings.

FALLS OF ROOF.

No. 29.—The Burma Corporation, Limited's Bawdwin lead-silver mine.

In this accident ten men were killed by a subsidence of underground workings. The ore-body worked is of exceptional thickness, the maxi-

mum being 140 feet; its average dip is 65 degrees. The workings have reached a depth of 1,100 feet. In 1925 there was an underground fire and a certain area of the workings lying between Nos. 3 and 5 levels was isolated by barricades. Recovery operations were commenced shortly after and have almost been completed. As might be expected the ore within the affected area has been rendered soft and incoherent.

The method of working is one in which the excavations made are closely supported by square set timbering and by waste material (earth and rock) which is quarried on the surface and directed into the stopes through waste passes. The timbers are carefully cut to standard measurements on the surface, and fitted with great accuracy in the stopes so that all posts are vertical and caps and sills are horizontal. A new set is inserted as soon as there is room for it and temporary support is given by fore-spiling and side lagging. The timber is speedily covered by the filling, and no attempt is made to recover it. The lavish use of timber can be appreciated when it is mentioned that some 18,000 tons of timber are used in the mine annually.

The labour force is employed on a system of three shifts of eight hours. There is a well organised and highly trained staff of engineers and skilled miners. The mine superintendent is assisted by five other mining engineers, and every part of the mine is inspected daily by one or other of these men. Each shift is supervised by a mine foreman, three assistant mine foremen, nine shift bosses, four or five assistant shift bosses and nine supervisors. Every working place is visited once in the course of each shift by the mine foreman or one of his assistants, twice by shift bosses, and several times by the supervisors. Each crew of four miners is under a leader who is chosen for his long experience in the mine. At few mines either in Europe or in India is such a reliable organisation and highly trained staff maintained.

At 6 A.M. on the 16th May an occurrence variously described by witnesses as a "bump", a crush, a loud noise like a gun going off, was heard on Nos. 3, 4 and 5 levels between co-ordinates 1200 and 1400 South. The "bump" was accompanied by an earth tremor and was followed by a mild air blast which extinguished most of the lights of those working in the area. The area affected is shown in Plans B and C; it extended vertically from the third down to the sixth level (a distance of 380 feet), and affected those levels for a length of about 170 feet. Within this area five stopes were being worked, and drives, levels, crosscuts and winzes were being advanced. It was fortunate that there was sufficient warning for the majority of the workers to make their escape in time. Of those employed between Nos. 5 and 6 levels all escaped except one who had gone up to No. 5 level to get timber. Three men were killed in a stope and a crosscut above No. 5 level and five men were killed by the collapse of a winze between Nos. 5 and 4 levels.

On No. 3 level four of six men at work in a crosscut got out safely, but two were imprisoned by the jamming of a ventilation door. Their lives were saved by the prompt action of Mazzuchelli Giacomo, assistant shift boss, who, obtaining an axe, chopped away part of the door and released them.

Some eighteen hours after the collapse the dead body of a workman and the unconscious body of another workman were found on No. 3 level at a point some 200 feet outside the area of the workings affected by the

collapse. The unconscious man on his recovery said that his light went out and he wandered about for some time and then lay down to sleep.

The filling of excavated ground with waste material does not prevent subsidence. There is evidence that the surface at this mine has slowly subsided more than ten feet, and points in the underground workings are now as much as 30 feet below their original level. The object of the filling is to reduce subsidence as much as possible and to encourage an even and gradual settlement of the superincumbent strata. Systematic mining also assists in bringing about an even and gradual settlement. In this part of the mine, however, it had not been found practicable to work in as systematic a manner as desired. The stoping had not been done regularly because in the earlier stages of the life of the mine high grade lead ore only was of value, and latterly the underground fire had delayed stoping operations. The ore-body on either side had been stoped extensively during the period since the fire, and increased weight had been thrown on the section which lagged behind. The resumption of stoping caused a release of stresses in the overloaded section, and this led to collapse In other words a block of ore cut off at either side by extensive stoping and on one side by stopes in the centre of the ore-body subsided suddenly instead of gradually and brought about collapse of the workings made within it.

It will be understood from the foregoing that in the part of the mine in which the accident occurred conditions were abnormal, and that the chief cause of the abnormality was the fire—a circumstance beyond the control of the management. To have abandoned the section would have involved the loss of not less than 400,000 tons of high grade ore. A loss of this magnitude would not have been justified. It was reasonable to expect that with the complete filling method of working subsidence would continue in a normal manner. Every reasonable precaution had been taken, and no negligence or carelessness on the part of the management was disclosed.

No. 24.—Lodna Colliery Company, Limited's Sripore coal mine.

The coal seam worked at this colliery is 16 feet thick. It is liable to spontaneous combustion, and is, therefore, worked on the "*panel*" system—a method in which the workings are divided up into areas known as "panels" separated by wide barriers of unworked coal.

In a "panel" of this kind the extraction of a pillar, 170 feet in length by 80 feet in breadth, had been almost completed. All that was left of the pillar was a "stook" or portion of the pillar measuring about 15 feet by 10 feet. A gang of miners was engaged in extracting this "stook" when the roof collapsed, and four of them were buried and killed instantly. From enquiries made immediately after the accident it appeared that operations had been carried on in the usual manner and under proper supervision, and that no one had been criminally negligent.

The underground workings at this colliery lie at a depth of about 1,000 feet, and the process of extracting pillars at this depth is difficult and more dangerous than at shallower depths. At only two other collieries in the Raniganj coalfield are pillars being extracted at approximately the same depth. From December 1926 up to the time of this accident there had been ten fatal accidents in which seventeen persons had been killed by falls of roof and sides. Enquiries under Section 21

of the Indian Mines Act, 1923, have in the past been confined to the causes of and circumstances attending a single accident. In this particular case the causes and circumstances of the accident were not in doubt, but as it seemed to me desirable that there should be an enquiry I recommended to the Government of Bengal that a formal enquiry should be held, and that the Court should be asked to consider the whole question of the method of pillar extraction at the colliery, with a view to the adoption of such modifications as will be likely to prevent accidents of the kind. The recommendation was accepted, and the District Magistrate, Burdwan, was appointed to hold the enquiry with Messrs. J. H. Lang, Offg. Chief Inspector of Mines, and Messrs. J. B. Wardlaw and J. Mackie as assessors. The following are quotations from the report submitted by the Court.—

"Pillars are extracted in rotation commencing from farthest in-bye end and working outwards, known locally as the "retreating" method or working "backs to goaf" * * * * The advantages claimed for this method of pillar extraction are:—(1) The workers are continually under a freshly exposed and adequately supported roof; (2) the rate of extraction is accelerated, (3) the area of roof required to be supported on timber is minimised and (4) economy in working. * * * * The area of goaf in No. 1 West Panel was 110,000 square feet. the maximum dimensions being 350 feet by 430 feet As the depth was 1,000 feet we consider that the area of coal extracted was of insufficient size to induce a fall of the main roof and thereby reduce the weight on the surrounding pillars. The sto [illegible] ysed had been so far reduced that it was not [illegible] ra pressure when the main roof came on " [illegible] this stook must have given some previous [illegible] ich went unnoticed. It is possible, however, that when the roof fell in on the previous week that the strata was fractured which would tend to lessen the warning. By whatever method a pillar is taken out a time comes when there is a small stook left, the extraction of which requires constant supervision by an experienced and competent staff, and although a collapse might not be prevented an experienced person would readily apprehend danger and withdraw the workers. As, however, there is no evidence that the roof gave warning we cannot hold any one to blame. We were unimpressed by the quality of the supervising staff subordinate to the manager and would suggest that this be strengthened We do not consider that any regulations were violated. * * * * In 1927 and 1928 the death rate per 1,000 persons employed was 3·47 and 7·17, respectively, the figures for all coal mines being 1·10 and 1·33. The death rate figures for Sripore also compare unfavourably with those for Assam where the worst natural conditions of all the coal mines in India have to be faced. * * * * * * * *.

After taking into consideration all the conditions that obtain at Sripore colliery, such as the flatness of the seam, comparatively good roof and the speed with which extraction proceeds and in view of the evidence of expert opinion we do not think it possible to condemn entirely the system of pil[illegible] hat it is more dangerous than [illegible] ghout the coalfield even altho [illegible] excessive.

Retreating from the goaf, an open end is left behind, *i.e.*, a large area of exposed roof is allowed to break and collapse of its own accord.

In the evidence adduced at the inquiry it was, we think, proved that neither props nor cogs were useful for breaking the overhanging roof or limiting the extent of the collapse when the coal and temporary supports were removed.

Working towards the goaf, additional support is rendered by the pillar of coal under extraction and by placing a limit to the area of roof that can be safely carried on timber supports.

It might be preferable, under whatever conditions and at all depths, to extract pillars with the line of face advancing towards the goaf and where possible, proceeding from rise to dip because by this method we are convinced that better control of the exposed roof can be exercised. The rate and direction *of the dip of the strata is a decisive factor* in all cases. For instance, in a seam similar to the Poniati dipping, say, 1 in 5 it would not be good practice to extract pillars with back to the goaf along the strike, as no amount of timbering would make the place safe to work in, or prevent the stones from the goaf knocking out props.

The Agent, Mr. Archibald, objects to systematic timbering as he does not want to hamper the sirdars but wishes them to think and exercise judgment. *We fail to see why they should not exercise judgment* when rules for systematic timbering are laid down. Some of the previous accidents have been due to bad judgment on the part of the subordinate staff and this can to a certain extent be counteracted by systematic timbering.

The management have shown considerable initiative in breaking away from the old methods employed generally in India and we do not wish to hamper their efforts to introduce new methods of working and therefore agree that a fair trial should be [illegible] explained by the Agent and detailed in the [illegible] there be no improvement with regard to s[illegible] might be made to working with the line of face advancing towards the goaf. At this colliery it is necessary to form panels on account of the risk of fire. These panels should be made as large as possible so as to allow of the main roof collapsing and thus minimise the pressure on the surrounding pillars.

Depillaring operations at a depth of 1,000 feet are at present being carried out at very few mines in India but as the seams lying at a shallower depth are exhausted more collieries will be opened up to win coal from depths approaching 1,500 feet. Experience alone will prove which is the most efficient method of working for general adoption so as to ensure safe and economical pillar extraction consistent with large outputs.

mitted until the roof coal has been dressed down. This is necessary to limit the distance of advance of the bottom coal and prevent overhanging roof coal.

(3) Limitation of blasting where the pillar has been reduced to a rib or stook.

(4) Continuous and competent supervision should be arranged when recovery of stooks is necessary and when closed faces are being reopened.

The subordinate staff should be strengthened by the appointment of additional overmen each of whom should not have more than two panels to supervise.

Since the accident the method of working has been entirely changed. All development and depillaring is now being done on a short wall system under which 50 per cent. of the coal, in barriers 325 feet wide, will be left for a second working on retreat from the boundary. Since the change there has been no accident by fall of roof or side.

No. 50.—The Government of India Railway Board's Serampore coal mine.

In this accident five persons were killed by the collapse of a pillar of coal under extraction. The seam of coal is from 18 to 22 feet in thickness and varies considerably in texture. As a rule it is fairly hard, but within a certain belt it is soft except for the coal, 4 feet thick, at the top of the seam. It was within this soft belt of coal that the place of accident was situated. In the ordinary process of extraction pillars, 50 feet square, are extracted in one operation, but where the coal is soft the pillars are split in two directions, and the four small pillars so formed are taken out one by one.

At the place of accident the goaf adjoining had collapsed. A pillar, 50 feet square, had been split into four smaller pillars, each about 14 feet square, by splits, 7½ feet wide and 7 feet high, driven in the bottom of the seam. After the completion of the splits what is locally known as a "howdar" (an upward cutting in roof coal) was being driven to meet the hard top coal which forms the roof of the working. Ample supports in the form of cogs and props had been set up (see Plan D). The "howdar" had been extended to a height of 1½ feet above the splits when the quarter pillar which it was intended to extract collapsed and buried five of the workers. Subsequent inspection showed that a mass of coal and roof stone had fallen from between "slips" on three sides and from a sooty parting between the top hard coal and the main sandstone roof. These "slips" were visible in the top hard coal, but did not extend into the soft coal, and therefore could not have been detected beforehand.

In the Annual Report for 1928 an account is given of two accidents by falls of roof and side at this colliery. These two previous accidents were accompanied by what is known as "bumps". They occurred in a part of the mine where the coal is hard and it was possible to take out a number of pillars before there was any sign of "weight". The conditions in these two areas were entirely different to what they were in the present case.

The recent accident was due to the "slips", although the initial movement may have been induced by further settlement of the adjoin-

c

ing goaf. The soft bottom coal not being strong enough to resist the thrust of the upper strata collapse resulted. The place was under constant and competent supervision but nothing unusual had been noticed, and no warning of the collapse appears to have been given. Under these circumstances the accident has been classed as due to " misadventure ".

No. 39.—The Bayra Coal Association's Sikdardih coal mine.

At this mine pillars of coal were being extracted in a seam, 8 feet thick, dipping at 1 in 4 A pillar 45 feet square had been reduced to 25 feet by 6 feet. Between this pillar and the next pillar to the dip there was a space, 29 feet in width, supported by props. Owing to the presence of a slip in the roof this area was known to be dangerous, and the workmen had been warned not to enter it Notwithstanding this three miners accompanied by three female carriers entered the place with the object of picking up loose coal which was lying there. While they were doing so the roof fell over an area measuring 25 feet by 20 feet, and four of them were killed.

The place was known to be dangerous before the accident, and the deceased knew that they were disobeying orders by entering it. To give verbal instructions that the place was dangerous and must not be entered was, however, not sufficient. It may be that the erection of a fence would not have prevented the deceased from entering the dangerous area, but it would certainly have acted as a deterrent and it is a precaution enjoined by the Regulations. The manager and the assistant manager were considered to be responsible for this breach of the Regulations. Criminal proceedings were instituted against them and they were convicted and punished.

No. 20.—The Equitable Coal Company, Limited's Hurriladih coal mine.

. At this mine the seam worked is 27 feet in thickness. The method of working is to drive galleries, 14 to 18 feet wide, on centres 80 feet apart, forming pillars from 62 to 66 feet square. The galleries are driven on the floor of the seam, and their height is afterwards increased by blasting down coal from the roof. In a certain gallery, 18 feet in width and 19 feet in height, a bench of roof coal, 6 feet in thickness, was being mined by blasting. Two C. P. miners drilled a hole in the roof coal and fired a shot of country gunpowder. After waiting until the smoke cleared they returned to the gallery and dressed down the loose coal near the shot hole They then left the gallery and instructed the loaders to commence loading Nine loaders commenced to load coal from the gallery, and shortly after masses of coal, each estimated to weigh some 2½ tons, fell from the roof and sides at a point some 15 feet in advance of the " lip " or edge of the bench of roof coal. Two of the loaders were struck by the coal and killed instantly.

It was evident that the two C. P. miners had done no more than dress the " lip " of the roof coal and had failed to inspect properly the adjacent part of the gallery. It was near the end of their shift and they were presumably anxious that the loaders should commence loading as soon as possible. If they had inspected the gallery carefully and dressed down the unsound coal the accident would have been avoided. They absconded within a few hours of the occurrence. As

their whereabouts was unknown and it would have been difficult to prove that they did not make a proper examination of the place criminal proceedings were not instituted.

Two important questions arise out of this accident In the first place in order to reach the loading point the loaders had to pass under roof coal which had been blasted, and there was, therefore, a possibility of unsound pieces of coal falling upon them unexpectedly Wherever possible loaded coal should be carried away from the bench and not under the bench In this particular instance it was urged that to do so would have meant carrying the coal for a distance of 250 feet instead of for a distance of 25 feet only By a proper arrangement of tramlines, however, the distance to be carried need not have been so great. Tramlines could have been kept within a distance of a few feet from the edge of the bench The second point is the support of the roof coal while loading is in progress. If supports are set at suitable distances in advance of the roof coal that is being blasted the edge of the bench will be kept supported. It is true that such supports are apt to be dislodged by the concussion caused by blasting. If, however, they are set at suitable distances and replaced when dislodged loading can be carried on with greater safety.

Falls of side.

No 66.—The Brindaban Industrial Syndicate Limited's Square No. K. 32 (Kodarma forest) mine.

This accident affords an example of the illegal practices rife in the mica field of Chota Nagpur. A prospecting shaft had been sunk on the side of a hill to a depth of 30 feet and had then been abandoned as the side of the shaft had become insecure and it was not safe to work there Although the top of the shaft had been fenced to prevent access yet during the usual stoppage for work at the week-end a miner passed through the fence descended the shaft, and attempted to extract a book of mica embedded in the side of the shaft. In doing so he undermined the side of the shaft, and a mass of stone fell upon and killed him instantly. The ease with which mica can be disposed of in the mica fields invites offences of this kind. It may be hoped that the Bihar and Orissa Mica Act, 1930, will be effective in removing the incentive to such offences.

In shafts (fallen down shaft).

No. 118.—Messrs. Chandanmull Indrakumar's Monoharbahal coal mine.

A loaded cage had been raised to the top of a shaft 360 feet deep, and before it had been lowered on to the " keps " or cage props the banksman had begun to push a loaded tub out of the cage when, owing to the " keps " not being in position, the cage descended for a few feet, precipitating the tub and the banksman to the bottom of the shaft.

The accident would not have occurred if the banksman had not attempted to remove the tub until the cage had been brought to rest on the " keps ". The " keps " were in perfect order and if they had been in position the cage could not have gone below the banking level.

This accident shows the advisability of attaching weights to kep levers so as to bring the "keps" into position automatically, and such an arrangement is already provided at the better equipped mines. After the accident the agent of the colliery issued orders for the provision of automatic "keps" at all the collieries controlled by him.

SUFFOCATION BY GASES.

No 125—The Bhulanbararee Coal Company, Limited's Bhulanbararee coal mine.

In this accident two subordinate officials who were inspecting the stoppings surrounding a fire area were overcome by an outburst of gas. A number of pillars of coal in No 15 seam, 27 feet thick, had been extracted from an area adjacent to the outcrop, and as the extraction had been followed by an outbreak of fire in the goaf the area had been isolated by stoppings and a barrier of sand introduced by hydraulic means (see Plan E)

Between 10 and 11 P M., on 11th August, the manager of the mine was informed that the electric current had failed He went to the mine at once and on arrival met an overman and sirdar whose duty it was to inspect the fire stoppings. He was told by them that some of the stoppings were leaking, and accompanied by them he went underground but on account of foul gas could not get beyond the fifth level (No. 10 stopping) By making a detour they reached points on the 13th and 14th level from whence flame could be seen over the sand packing Gas could be heard issuing, and the manager presumed that the point of issue was in the vicinity of No 1 stopping (see Plan E). They returned to the surface and the manager went to the office where he met the Electrical Engineer and discussed with him measures for the detection of the fault in the electrical transmission line.

Before leaving the overman and sirdar the manager had told them to go to another entrance (No 3/15 incline) and wait for him there. When he arrived about quarter of an hour later he found two umbrellas lying near the entrance and rightly presumed that the two men had gone ahead to make an inspection. Accompanied by another official the manager went down No. 3/15 incline but owing to the presence of gas was unable to get below the second level. When he returned to the surface it was reported to him that a workman at the top of No. 1 pit had heard an explosion underground, and when he reached this shaft he found it upcasting and full of irrespirable gas. Being unable by reason of the gas to descend the shaft to the workings of No. 15 seam he attempted to ascend to them from the underlying workings of No. 14 seam, but was again unsuccessful and for the same reason. He then
descended C pit which communicates with d [illegible] and connected work-
ings in No 15 seam, and after some search fo[illegible] deceased overman
lying dead between the 19th and 20th levels [illegible]lene lamp was
found just above th[illegible]h level. On the fo[illegible] day the body of
the sirdar was foun[illegible] the 21st level, and [illegible] lamp
at the 19th level. I[illegible] disclosed that [illegible]
on the 14th and 15th l[illegible] sand packi[illegible]
and on the 12th Augu[illegible] was clear
still upcasting there w[illegible] stink.

The immediate cause of this accident was most unusual. On the night of 10th August it rained incessantly for about six hours, and five inches of rain is said to have fallen. A great deal of water must have found its way into the quarry and from thence to the active fire area, where steam must have been generated so quickly as to cause a blow-out over the sand packing which had already sagged slightly in the vicinity of No. 1 pit. Several of these blasts probably occurred, and some of them were heard by various officials. From the position in which their lamps were found it appears that the two deceased were near the door C (see Plan E) when a blast occurred and gases were emitted from the 14th and 15th levels. They were able to travel about 600 feet without lights before they were overcome by the gas.

After the accident the spaces above the sand filling were filled and in addition stoppings were built so as to allow the sand to be kept tightly rammed against the roof.

As other accidents by gas poisoning or asphyxiation have since occurred I thought fit to issue a warning circular to managers of coal mines in which underground fires have occurred.

Underground machinery.

No. 166.—The Bengal Bhatdih Coal Company, Limited's Bhatdee coal mine.

A coal cutting machine was set in position for jibbing in to undercut a gallery, and one of the attendants was leaning over the jib holding the anchor post. As soon as the chain tightened the anchor post, however, the post slipped out of position, and deceased fell with it and was fatally injured by the cutting chain. After the accident it was found that for the setting of the anchor post reliance had been placed on a small recess in the roof only, and that no recess had been cut in the floor.

After the accident orders were issued as follows:—

(a) Proper recesses to receive the anchor post shall be cut in the roof and floor.

(b) All persons shall retire behind the machine before it is set in motion.

(c) The head machineman shall be responsible for the observance of these precautions.

Sundries underground.

No. 172.—The East Indian Coal Company, Limited's Barari coal mine.

This accident took place in the vicinity of an area of workings in No. 15 seam from which pillars of coal were being extracted. The seam is 28 feet in thickness and in the process of extraction the full thickness is worked. The area concerned lies at a depth of from 80 to 100 feet and is 400 feet in length by 250 feet in breadth; it contained 48 pillars of coal of varying sizes, the average being 35 feet square. As the coal is liable to spontaneous combustion the area or "panel" had been isolated by building brick stoppings in the galleries surrounding it. These stoppings were from 4 to 5 feet thick at the base and 3 feet thick

at the top, and were recessed into the floor and sides. Openings known as "vent-holes" or "passage holes" had been left in five of the stoppings to allow the passage of the air which would be displaced when the inevitable and expected fall of the roof took place. The exceptional strength of these stoppings was necessitated by the fact that close by there were fire areas isolated by fire stoppings, and it was important that these fire stoppings should not be damaged by air blasts.

At the time of the accident eight pillars had been extracted and portions of eight other pillars had been removed. At 4-30 A.M., when some 70 to 80 persons were at work in and about the depillaring area ("panel") the overman noticed "weighting", *i.e.*, symptoms of impending collapse, and he and the sirdar withdrew all persons from the "panel" to the outer side of the stoppings. Some two or three hours later an area within the "panel", measuring about 250 feet by 150 feet, collapsed, and with such suddenness that air was violently expelled through the "vent-holes". At that time unfortunately a number of the workers were sitting or standing in front of one of the "vent-holes" and the strength of the air-blast was so great that they were thrown down with violence and two of them were killed, one fatally injured and four seriously injured.

Enquiry into the circumstances of the accident disclosed the fact that every necessary precaution had been taken. Regulation 79 is pertinent It reads as follows —

> "Where the method of extraction is to remove all the coal, or as much of the coal as is practicable and allow the roof to fall in, operations shall be conducted in such a way as to leave as small an area of uncollapsed roof as possible and, where practicable, means shall be taken to bring down the roof at regular intervals"

In this case operations were being conducted in such a way as to leave as small an area of uncollapsed roof as possible. The "panel" was not a large one, the workings were being regularly advanced, and no coal was being left behind There had, therefore, been no violation of this regulation The subordinate officials had been ordered to withdraw all persons beyond the stoppings if any "weighting" of the roof was detected. This had been done but unfortunately the workmen had not been sufficiently instructed to keep away from the "vent-holes". Since the accident special retiring stations have been prepared in places out of the direct line of any possible air-blast, and the workmen have been instructed to sit down in such places when danger is apprehended.

Air-blasts caused by sudden falls of roofs in goaves (empty spaces underground) have long been experienced in the thick seams of the Indian coalfields They cannot be prevented although their effects may be mitigated. In several instances they have caused cages to be blown up in shafts, and in one such case in the Jharia coalfield a few years ago an official, who was ascending the shaft with the object of reporting to the manager that a fall of roof in a goaf was imminent, was killed by the fracture of the winding rope which took place when the cage fell back after having been blown upw[illegible] the blast. It must not, however, be understood from the fo[illegible] a *dangerous air-blast* follows every large fall of roof. Da[illegible]asts are uncommon, and it is difficult [illegible]en they are lik[illegible]ur. Much depends

on the character of the strata, the degree of extraction which has been obtained and the time occupied by the fall. If the fall is gradual—as is usually the case—there is little or no air-blast. On the other hand if it is sudden a violent air-blast may result.

SURFACE MACHINERY.

No. 184.—The Maharaja of Kasimbazar's South East Baraboni coal mine.

The deceased in this case was employed on a lathe in the colliery workshop. His body was found twisted round the main power shaft. As the driving belt had come off the pulley it was assumed that he went to the place to replace the belt. The power shaft was $2\frac{1}{2}$ inches in diameter and revolving at a rate of about 200 revolutions per minute. Although it was a smooth shaft the man's loose clothing had become entangled and was wrapped round it.

Mine managers do not always realise the danger of revolving shafts, and when the danger is pointed out they are apt to remark that there is no projection on which anything can catch. This accident clearly shows the dangers of comparatively slow running exposed shafts even when they are smooth. All such shafts should be guarded, and all persons who work near machinery should be advised to wear tight fitting clothing.

The fencing of surface machinery should be such as not only to guard against normal risks but also, as far as possible, against the carelessness, ignorance and disobedience of workmen.

ON SURFACE RAILWAYS AND TRAMWAYS.

No. 192.—The Lodna Colliery Company (1920), Limited's Lodna coal mine.

In the colliery siding it was necessary to shunt a railway wagon by hand, and the loaders were about to do so when they found a youth beneath it who was apparently sheltering from the heat of the sun. They told him to come out, but instead of doing so he remained beneath the wagon and, in contravention of Regulation 151, helped to move it by pushing on the central brake axle. In doing so he placed his foot in such a position that it was run over by the wheel of the wagon. Twelve days later he died in hospital.

This accident should not have occurred. In the first place deceased should not have been under the wagon. Being there, he should, under Regulation 150, have been warned by the person in charge. The latter, however, was at that time in another wagon counting bags of coal, and the loaders took it upon themselves to move the wagon without him.

Coal Mines Regulation 151 reads as follows:—

> "The movement of railway wagons by gravity or manual power shall only be carried on under the direct supervision of a responsible male person who shall either himself control the brake or depute a competent person to do so. Where more wagons than one are being moved at the same tim the wagons shall be coupled together. Persons em lo in moving wagons shall do so only by pushing from the last wagon."

Proper observance of this regulation would prevent accidents of this kind.

NON-STATISTICAL.

No. 2.—The Phularibad Coal Company, Limited's Phularibad coal mine.

At this mine an area of the surface, 540 feet in length and 390 feet in breadth, subsided unexpectedly to a depth of from 7 to 14 feet, carrying with it a number of buildings and causing the death of four unemployed persons. Although no underground work had been done at the mine for two years yet the workmen's dwellings had continued to be occupied by some eighty persons, chiefly former employees of the mineowners. The buildings were insanitary and, at the instance of the Medical Officer, Jharia Mines Board of Health, efforts had been made to evict the occupants, but these efforts had proved unsuccessful and the tenants had remained in the buildings without payment of rent. For some time prior to the subsidence the Phularibad Coal Company, Limited—the mineowners—had been in liquidation, and a civil suit with the landlords was in progress. An injunction arising out of this suit prevented any interference with buildings, and the liquidator had, therefore, been unable to render the buildings uninhabitable.

At this mine three seams had been worked. No. 14 seam, 29 feet thick, outcrops within the area of subsidence, No. 13 seam, 18 feet thick, lies at a depth of 90 feet, and No. 11-12 seam, 42 feet thick, at a depth of 240 feet. No underground work had been done in Nos. 13 and 14 seams for ten years, and in No. 11-12 seam for two years.

Some three years prior to the subsidence and one year prior to the discontinuance of underground work the Inspector of Mines, No. 1 Circle, had expressed dissatisfaction with the underground support provided in a certain portion of the workings of No. 11-12 seam, and at his instance forty-four "chocks" or "cogs" of railway sleepers filled with stone had been set up in the underground workings. That these supports proved effective is shown by the fact that it was not these workings that subsided but an adjacent area in which work was carried on for some six months after the building of the cogs. At the time when the cogs were completed the Inspector was satisfied that the pillars in the adjacent area afforded sufficient support. Their condition when six months later underground work ceased was not known with certainty as no subsequent inspection had been made by an officer of the Mines Department. As shown on the plan the centres of the galleries were from 50 to 60 feet apart. The former manager of the mine said that at the time when underground work ceased the galleries were from 30 to 40 feet high and from 18 to 25 feet wide, and that when he made his last inspection there was no sign of crush and the *workings appeared to be in order. The former agent said that when* he made his last inspection about a month before the mine was closed down the workings did not appear to be unsafe. Both he and the former manager denied responsibility for the subsidence, and it would have been difficult to prove such responsibility as the underground workings had remained stable for two years after discontinuance. Criminal proceedings under the Mines Act were in any case time-barred.

For many years past the Mines Department has paid particular attention to the matter of underground support for surface buildings,

roads and railways, and cases in which Inspectors obtain the execution of protective works, the evacuation of buildings or the diversion of roads are numerous. The danger of unexpected collapses is greatest in the Jharia coalfield where the seams being exceptionally thick, numerous and close together, it is sometimes difficult to appreciate when a condition of instability has been reached.

Section IV.—Prosecutions and amendments to the Act, Regulations and Rules.

Prosecutions

NOTE.—The reference to Regulations in this section is to the Indian Coal Mines Regulations, 1926, or the Indian Metalliferous Mines Regulations, 1926. The Rules referred to are those framed under Section 30 of the Act by the Local Government concerned.

During the year judgments in prosecutions were given as follows:—

The owners (two), the agent and the manager of Messrs. A. C. Bose and Gopiram Bhotica's Central Nandi colliery were prosecuted under Regulations 15 (*3*), 53 (*2*) and 76 (*2*) for failing to keep a tracing of the surface plan at the mine, for failing to provide means for raising persons from the second outlet and for allowing the workings to encroach beyond the boundary of the property. The Agent was fined Rs. 20 and the manager Rs 30, in default simple imprisonment for twenty days and one month, respectively The case against the owners was withdrawn

The agent, sub-agent and manager of Messrs. The Netra Manganese Company, Limited's Majri colliery were prosecuted under Regulations 15 (*2*) and (*4*), 53 (*2*) and 137 (*2*) for failing to keep a plan of the underground workings at the mine, for failing to provide proper means for ascending and descending the working pit and for failing to fence two discontinued pits The agent and sub-agent were acquitted. The manager was fined Rs. 15

The owners and managers of Messrs. B. L. Pain and Sons' Chandore colliery and the West Angarpathra Coal Company's West Angarpathra colliery were prosecuted under Regulation 76 (*1*) for working within twenty-five feet of the boundary between the Chandore and West Angarpathra mines. The owner and the manager of Chandore colliery were fined Rs .15 each, in default simple imprisonment for five days. The owner of West Angarpathra colliery was fined Rs. 25 and the manager Rs. 15, in default simple imprisonment for five days.

The owners (three) and manager of the Khas Angarpathra Coal Company's Khas Angarpathra colliery were prosecuted under Regulations 58 (*k*), 139 and 141 for failing to provide suitable gates or rigid fences on the cages used for raising and lowering persons, for failing to fence in a proper manner disused galleries and for failing to fence or guard the exposed and dangerous parts of the machinery. The owners were fined Rs. 20 each and the manager Rs. 50, in default simple imprisonment for two weeks each and one month, respectively.

The manager of the Kurharbaree Coal Concern's Kurharbaree colliery was prosecuted under Rule 17 for failing to fence an area on the surface which was likely to be endangered by a subsidence as a result of mining operations. He was acquitted.

Two miners of Messrs The Krishna Coal Company, Limited's Searsole Khas colliery were prosecuted under Regulations 82, 84, 146 and 148 for working in a place other than the place in which they had been ordered to work, for cutting coal from a pillar without authority to do so, for endangering their lives and limbs by working in a place that was not safe and for passing through a fence erected to prevent persons entering. They were fined Rs. 10 each, in default simple imprisonment for three days.

The managing owner of Messrs Sircar and Dutt's Haripur colliery was prosecuted under Reguations 100, 104, 101 and section 28 of the Act read with Regulation 149 for failing to appoint a competent person to take charge of the magazine, for failing to keep a correct record of the quantity of explosives issued and returned to the magazine, for issuing explosives to unauthorised persons and for failing to appoint a competent person to keep the attendance register He was fined Rs. 32, in default simple imprisonment for two weeks.

The owners (eight) and manager of Messrs. K. S. Nanji and Company's Kujama colliery were prosecuted under Regulation 149 and section 28 of the Act for failing to keep a correct record of persons going underground daily and of the actual number of hours worked. Two of the accused died. The remaining six were fined Rs. 20 each and the manager Rs 100, in default simple imprisonment for three days each and ten days, respectively.

The manager of the Ceartal Bansjora Colliery Company's Central Bansjora colliery was prosecuted under section 23 (*b*) of the Act and Rule 9 for employing the boiler firemen of the colliery for more than sixty hours per week and for failing to have the register of work persons properly maintained He was fined Rs. 15, in default simple imprisonment for three days.

The owner and agent of the Central Angarpathra Colliery Company's Central Angarpathra colliery were prosecuted under Regulation 23 read with Section 15 of the Act for working the colliery without a qualified manager. The former was acquitted and the latter fined Rs. 80.

For the same offence the owner of the Chatai Colliery Company's Chatai colliery was prosecuted The case was withdrawn as it was found that the accused was a minor.

The manager of the above-mentioned colliery was prosecuted under Regulations 23 and 24 for having acted as manager without possessing the requisite qualifications. He was fined Rs. 25, in default simple imprisonment for ten days.

The owners (three) of Messrs. Thakur Singh and Others Singracole colliery were prosecuted under section 14 of the Act for failing to submit the necessary notices of re-opening and closing the mine. They were fined Rs 5 each, in default simple imprisonment for ten days

The manager and attendance clerk of Messrs. Chandanmull Indrakumar's Monoharbahal colliery were prosecuted under Rule 9 and section 28 of the Act for falsifying the attendance register of work persons at the mine. The clerk was fined Rs. 15, in default simple imprisonment for one week. The manager was acquitted.

The owner of the East Dharmaband Coal Company's East Dharmaband colliery was prosecuted under Regulations 15 (*2*) and 76 (*1*) for failing

to keep an accurate and up to date plan of the mine and for permitting work to be done within twenty-five feet of the boundary of the mine. He was fined Rs. 25.

The owner of Bhatto Lodhi's Barawah steatite mine was prosecuted under Regulations 38, 46 and 48 for failing to keep secure the sides above the entrance to a tunnel, for failing to provide a barrier at the top of the tunnel and for failing to provide steps, ladders or other means of climbing or keeping a footing while at work in places where they were needed. He was fined Rs 5.

The owner-manager of Sadhuram Shukla's Bargawan limestone mine was prosecuted under Regulations 38, 40, and 72 for failing to keep the sides of the workings sloped, stepped or secured, for failing to remove all overburden and loose material sufficiently far from the edge and for failing to keep a register for recording shots fired, quantity of explosives used and shots, if any, misfired. He was fined Rs. 60.

The manager of Ganpat Rov Kedarnath's Bhanekhap mica mine was prosecuted under section 26 of the Act and Rule 9 read with section 28 of the Act for employing a child in the mine and for failing to maintain a register of work persons He was fined Rs. 25, in default simple imprisonment for two weeks

A shot-firer and miner of Messrs The Pench Valley Coal Company, Limited's Barkui colliery were prosecuted under Regulations 144, 108 and 101 The former for deputing an unauthorised person to fire shots in the mine and the latter for having stemmed and fired shots and having kept explosives in his possession without the proper authority. They were fined Rs 15 each, in default rigorous imprisonment for one week.

The owner of Sukhu Ram Gond's Tarachandi sandstone mine was prosecuted under Rules 8 and 9 and section 15 (*2*) of the Act read with Regulation 21 (*1*) for failing to keep in stock the requisite ambulance appliances and for failing to appoint a qualified manager. He was fined Rs 100, in default simple imprisonment for two months

The owners (two) and manager of Messrs. N. K. Neogi and P. N. Dass' Jamunakanah colliery were prosecuted under Regulation 15 (*2*), (*3*) and (*4*) for failing to keep a correct plan of the workings of the mine, for failing to keep a separate tracing of the surface plan showing all the surface features and for failing to keep in the office at the mine an up to date plan. They were acquitted.

The manager and contractor of the Aldih Coal Company, Limited's Aldih colliery were prosecuted under section 23 of the Act for employing persons underground for more than fifty-four hours during the week. They were fined Rs 50 each, in default simple imprisonment for one month

The owner and manager of the Nandi Coal Association's Nandi colliery were prosecuted under section 19 (*2*) of the Act and Regulation 24 (*3*) for employing persons for cutting and loading coal in an area in which working had been prohibited by the Chief Inspector, and for failing to appoint a temporary manager during the absence of the permanent manager. They were fined Rs. 50 each, in default simple imprisonment for one month.

The manager and shot-firer of Messrs. J. S. Mull & Company's Kendwa mica mine were prosecuted under Regulations 71 and 81. Th

manager for failing to appoint the sh[illegible] in a book kept for that purpose and [illegible] the working place after blasting [illegible] Rs. 15, and the latter Rs. 30, in default simple imprisonment for one week.

The manager and sirdar of Messrs. Chattu Ram and Darsan Ram's Belum mica mine were prosecuted under Regulation 38 for permitting work to be done in an excavation which was in a dangerous condition, as a result of which an accident took place in which a person was killed. The manager was fined Rs. 100, in default simple imprisonment for three months and the sirdar was sentenced to six months rigorous imprisonment.

For the same offence which also resulted in an accident in which a woman was killed the owner and manager of Messrs. The New Kusunda Collieries Limited's New Kusunda colliery were prosecuted They were fined Rs 100, and Rs. 15, in default simple imprisonment for seven days and three days, respectively.

A sirdar of Messrs. The Amalgamated Coalfields Limited's Datla colliery was prosecuted under Regulations 143 and 148 for disobeying orders of the manager and for removing a fence without the permission of the manager, as a result of which four persons lost their lives. He was fined Rs. 30.

The manager and assistant manager of the Bayra Coal Association's Sikdardih colliery were prosecuted under Regulations 139 and 140 (*1*) for failing to fence a place which was dangerous with the result that persons entered it, of whom four were killed and one seriously injured. The manager was fined Rs. 500 The assistant manager was acquitted.

The owners (four), the manager and a sirdar of the West Ghusick Coal Concern's West Ghusick colliery were prosecuted under Regulations 72, 121 and 146 for allowing persons to [illegible] mine was in a dangerous condition due to [illegible] gas, for failing to keep the mine adequat[illegible] and render harmless inflammable gases, and for failing to take necessary precautions for the safety of persons employed in the mine. The manager and the sirdar were fined Rs. 100 each, in default simple imprisonment for one month; the owners were acquitted.

The safety lamp room attendant of Messrs. The Bengal Iron Company, Limited's Ramnagar colliery was prosecuted under Regulation 127 (*a*) for issuing a safety lamp which was not in safe working order, with the result that an ignition of gas occurred and three persons were injured. He was fined Rs. 50, in default simple imprisonment for ten days.

A sirdar and shot-firer of the Newton Chikli Collieries Limited's Newton Chikli colliery were prosecuted under Regulations 109 and 110 read with Special Rules 40 and 48 in the case of the sirdar, and Special Rule 88 in the case of the shot-firer, for failing, when about to fire a shot, to give notice to all persons likely to be endangered. They were fined Rs. 25 each.

Forty-five prosecutions were instituted for failure to submit annual returns within the prescribed date. In twenty-eight cases fines aggregating Rs. 755 were imposed. The other cases were dropped on various grounds.

Prosecutions were instituted under Regulation 17 for failure to submit plans of abandoned or discontinued workings of mines, as follows:—

(a The owner of the Bharat Luxmi Coal Company's Bharat Luxmi colliery was fined Rs. 10.

(b) The owner of Benoy Krishna Mukherjee's Nudkhurkee colliery was fined Rs. 5.

Information was received of the following prosecution:—

The owner of Sadhuram Shukla's Bargawan limestone mine was prosecuted under section 37 read with sections 26 and 3 (e) of the Act for employing children in his mine. He was fined Rs. 50.

Information was received of the following prosecutions instituted by mine officials against subordinates:—

The Colliery Superintendent of the Assam Railways and Trading Company, Limited's Tikak colliery prosecuted a lampman for unlocking a safety lamp when underground. The lampman was fined Rs. 50.

The manager of the Equitable Coal Company, Limited's Hurriladih colliery prosecuted a miner under Regulations 82, 84 and 148. After having entered a prohibited area by removing the fence the miner robbed coal from a pillar and then ordered another miner to load the robbed coal, thereby being responsible for the death of the miner by falling coal. He was sentenced to six months rigorous imprisonment.

The manager of the Bagdiggi Kujama Collieries Limited's South Kujama colliery prosecuted an overman and shot-firer under Regulation 117 for failing to take adequate precautions to prevent persons entering a gallery before it had been made safe. They were sentenced to three months rigorous imprisonment each. The overman was acquitted on appeal

The manager of the New Beerbhum Coal Company, Limited's New Beerbhum colliery prosecuted a sirdar under Regulation 144 for being absent from duty without permission. The case was dismissed as the complainant arrived at the court late.

The manager of the Burrakur Coal Company, Limited's Saltore colliery prosecuted a trolleyman under Regulation 58 (f) (iv) for acting as banksman without authority, thereby causing an accident in which a person was injured. The trolleyman was fined Rs. 50, in default rigorous imprisonment for one month.

The manager of the Burrakur Coal Company, Limited's Loyabad colliery prosecuted an engine khalassi under Regulations 144 and 146 for leaving his engine room without permission, with the result that an accident occurred. The man was fined Rs. 40, in default simple imprisonment for twenty days.

The manager of the Equitable Coal Company, Limited's Bejdih colliery prosecuted the electrician of the colliery under Regulation 143 for not complying with certain orders. The man was acquitted.

The manager of the Standard Coal Company, Limited's Benabi colliery prosecuted two miners under Regulations 82 and 84 for wor in a place and cutting coal without being authorised to do so. case was dropped as the accused could not be traced.

Three miners and two loaders of the same colliery were also prosecuted by the manager under Special Rules 3, 5, 7, 15 and 21 and *Regulations 82, 84, 147 and 148.* They were fined *Rs.* 4 each.

AMENDMENTS TO THE INDIAN MINES ACT AND TO THE REGULATIONS, RULES AND BYE-LAWS MADE UNDER THE ACT.

In Notification No. M-1055, dated the 7th March *1929, the Government* of India, Department of Industries and Labour, published regulations restricting the employment of women underground in coal mines in Bengal, Bihar and Orissa and the Central Provinces, and in salt mines in the Punjab; and prohibiting the employment of women underground in *all* other mines. These regulations came into force on the 1st July 1929; they are reproduced in Appendix IV, Statement No. 3.

In Notification Nos M-1055 (1) and (2), dated the 13th November 1929, the Governor-General in Council, in pursuance of Regulations 19 *and 27 of the Indian Coal Mines Regulations 1926, was pleased to* direct that in the case of coal mines in Assam, Bengal, Bihar and Orissa and the Central Provinces, the plans required to be kept under regulation 15 or to be sent under regulation 17 of the said regulations, shall, after the 30th June 1930, be prepared by or under the supervision of a surveyor who has been granted a surveyor's certificate under the said Regulations; and that with effect from the same date no person shall be employed as a surveyor in a coal mine in Assam Bengal, Bihar and Orissa and the Central Provinces unless he holds a surveyor's certificate under the said Regulations.

In Notifications Nos. M-1055 (1) and (2), dated the 13th May 1929, the Government of India, Department of Industries and Labour, published certain amendments to the Indian Coal and Metalliferous Mines Regulations The notifications are reproduced in Appendix IV, *Statements Nos. 4 and 5.*

In Notification No M-987, dated the 16th May 1929, issued by the Government of India, Department of Industries and Labour, the approval of the Governor-General in Council was accorded to the recognition, for the purposes of Coal Mines Regulations 34, 35 and 39, of the University of Illinois, Urbana, United States of America, in respect of its degree of Bachelor of Science in Mining Engineering (with coal mining option) granted after the 1st January 1913.

In Notifications Nos. 1025-T. Com. and 2993-VII-M-9-Com., dated *the 16th September and 26th November 1929, respectively, the Governments* of Bengal and Bihar and Orissa made certain amendments to the rules The amendments are precisely similar. The Government of Bengal Notification is reproduced in Appendix IV, Statement 6.

The Governments of Bombay and the Central Provinces in Notifications Nos 9156/24 and 3839-1322-XIII, dated the 30th May and 23rd December 1929, respectively, made certain amendments to the rules. The notifications are reproduced in Appendix IV, Statements Nos. 7 and 8.

Under Government Order No. 1755, dated the 16th October 1929, the Government of Madras published a notification making certain amendments to the rules. The Order is reproduced in Appendix IV, Statement No. 9.

Bye-laws were established at sixty-one coal mines.

Owners, agents and managers are informed that official publications in respect of mines are obtainable as follows:—

From the Government of India, Central Publication Branch, 3, Government Place, West, Calcutta:—

(1) Indian Mines Act, 1923, as amended by the Indian *Mines (Amendment) Act, 1928.*

(2) Regulations made under the Act.

(3) Orders and exemptions made by the Government of India.

From Local Governments, usually from the Superintendent, Government Printing, but in the case of Bengal and Assam from the Secretariat Book Depôt:—

(1) Abstract of the Act and of the Regulations and Rules *made under the Act.*

(2) Rules and bye-laws made under the Act.

English, Bengali and Gujrati copies of the bye-laws for coal mines can be obtained from the Bengal Secretariat Book Depôt, and Hindi copies from the Superintendent, Government Printing, Gulzarbagh, Patna.

(3) Orders made by the Local Government.

Section V.—General Remarks.

Visits of the Royal Commission on Labour to Indian Mines.

On October 21st and 22nd the Royal Commission on Labour visited salt mines and coal mines in the Punjab. On 9th December the Commission visited a manganese mine in the Central Provinces, and on 21st December a mica mine and mica factories in Chota Nagpur. On 23rd January 1930 coal mines in the Raniganj coalfield were inspected, after which the members of the Commission moved on to Dhanbad where a week was spent in inspecting mines in the Jharia coalfield and in recording the evidence of employees, representatives of the mine-owners, and Government officials. An excursion was made to a group of Sonthal villages from which coal miners are recruited, and an afternoon was spent in attendance at the annual miners' sports at Kustore colliery. On January 31st a visit was paid to the Giridih coalfield.

Health and Sanitation.

The Asansol Mines Board of Health held eleven ordinary and five special meetings during the year. Dr. J. W. Tomb was Chief Sanitary Officer up to the 15th May when he resigned after having served the Board with distinction for thirteen years. The post of officiating Chief Sanitary Officer was held by Dr. A. K. Sen from 16th May to 20th December, and by Dr. S. K. Sarkar from 21st December. The population of the Asansol Mining Settlement is 329,353 persons. There were 1,076 cases of cholera with 518 deaths and 354 cases of small-pox with 42 deaths, as compared with 537 cases of cholera with 292 deaths and 143 cases of small-pox with 13 deaths during the year 1928. The death rate was 23·2 per thousand, as compared with 20·9 in 1928 and 16·62 in 1927. The infant mortality rate was 145.

The Jharia Mines Board of Health held twelve ordinary and five special meetings during the year. Dr. J. N. Mitra officiated as Medical Officer of Health up to the 13th May, on which date Dr. C. S. Ryles took over charge. The population of the Jharia Mining Settlement is 453,948 persons. There were 1,428 cases of suspected cholera with 623 deaths, as compared with 678 cases and 203 deaths during the previous year. The total number of deaths from cholera on collieries was 79, as against 36 in the previous year. The increase in the incidence of cholera was due to an epidemic in the rural villages during the period July to September. Owing to the piped system of filtered and chlorinated water supply the outbreak did not affect the collieries, except for a few cases imported from the rural area. There were 1,066 cases of suspected small-pox with 65 deaths, as against 1,541 cases with 56 deaths in the previous year. The death rate was 19·57 per thousand and the birth rate 27·75 per thousand, as compared with 18·28 and 35 47 per thousand, respectively, during the previous year. In the Board's laboratory 324 samples of food were analysed, of which 123 were found to be adulterated. Prosecutions were instituted in the worst cases. The beneficial effect of the Board's campaign against food adulteration is not yet particularly noticeable, but it is perhaps too early to expect appreciable results.

Statistics of rainfall in the eastern coalfield have been recorded as follows:—

	1929	1928
Jharia Coalfield—		
Jealgora	52 95	46 92
Topchanchi reservoir	72 03	55 93
Raniganj Coalfield—		
Kulti	67·04	70·42
Giridih Coalfield—		
Giridih	58 62	58 01

Ambulance Work.

As in former years classes in First-Aid to the injured organised by the Inspectors of Mines were held in the coalfields. At the twenty-two centres in the Jharia coalfield 290 students attended and 214 St. John Ambulance Association first-aid certificates were awarded. The examinations were conducted by Lt.-Col. R. H. Price, I. M. S. (Retired), Drs L G. deRosario, F T Simpson, H. K. Chakrabarty and R. J. Sinha.

In the Raniganj coalfield classes were held at seven centres. 93 students attended, 82 were examined, and 65 obtained certificates The examiners were Drs. P. C. Biswas, D. N. Tewari, S. N. Majhi, B. Sen Gupta, N. Haque and S. P. Chatterjee.

Instruction in first-aid was also given at coal mines in the Bokaro and Giridih coalfields, at manganese mines in the Central Provinces and elsewhere.

Mining Education.

At the Indian School of Mines the total number of students on the roll at the commencement of the session 1928-29 was 122, there being 33 in the first year, 50 in the second year and 39 in the third year. In addition two junior officers of the Northern India Salt Revenue Depart-

ment were attached to the School for training. On the results of the examination held at the end of the session 30 students were promoted to the second year and 48 students to the third year. The first Certificate examination of the School was held in July, the total number of candidates who appeared being as follows:—

For the Certificate in Geology	10
For the Certificate in metal mining	8
For the Certificate in coal mining	21

The numbers to whom certificates were awarded were as follows:—Geology 10; Metal mining 8; Coal mining 19. At the commencement of the fourth year in November 1929 the total number of students on the roll was 120 The Mine Surveying camp was pitched at Godhur in the Jharia Coalfield during the months of November and December, and 111 students of the second, third and fourth years were in attendance Visits and tours of inspection were paid to the Salt Range of the Punjab, Cutch and other places by the geological students, and to Katni limestone quarries and the manganese mines of the Central Provinces by the mining students. The second year students also paid a visit to the mica mines of Kodarma. In addition many visits to collieries were made. The annual prize distribution was held on 30th July 1929 when the prizes were distributed by Mr. A. A. F. Bray, Chairman, Indian Mining Association.

At the Bengal Engineering College the three students in the final class were all successful at the examination for the Diploma in the Principles of Mining. The mining classes at that college were finally abolished with effect from April 1929.

The Mining Education Advisory Board continued to control the three-year courses of evening instruction in mining subjects instituted by the Governments of Bengal and Bihar and Orissa. The lecture centres are at Raniganj and Sitarampur in the Raniganj coalfield, and at Jharia and Sijua in the Jharia coalfield. In the Raniganj coalfield the teaching staff consisted of Mr. L. Millar assisted by Babus Nirmal Chandra Sarkar and Dhirendra Nath Sarkar, and in the Jharia coalfield Mr Griffith Jones assisted by Babus Umapati Prasad and Basanta Kumar Palit up to the close of the session ending in April 1929. Messrs. Millar and Griffith Jones having resigned their appointments they were from the commencement of the 1929-30 session succeeded by Messrs. Niranjan Ghose, lecturer, Raniganj coalfield, and Hemanta Kumar Nag, lecturer, Jharia coalfield. During the session 1928-29 the total number of students enrolled was 124, of whom 71 attended the classes of the third stage. Of these 71 students 14 attended the final examination and 7 were successful. The examiners were Dr. D. Penman and Mr. W. Kirby. Courses of ten lectures were delivered in Hindi to overmen and sirdars at six centres in the Jharia coalfield and at one centre in the Raniganj coalfield. Similar lectures in Bengali were delivered at six centres in the Raniganj coalfield. The lecturers were Babus S. M. Bhattacharjee, B. K. Bose, P. R. Chakravarty, S. K. Ghose, P. Chakravarty, J. G. Banerjee and D. P. Naug. Special demonstrations in gas testing were given by the mining lecturers at the Jharia and Sitarampur lecture halls.

D

MINING AND GEOLOGICAL INSTITUTE OF INDIA.

The total membership, including subscribers, of the Mining and Geological Institute of India at the close of the year was 325. In addition to the annual meeting three ordinary general meetings were held for the reading and discussion of papers, whilst one meeting took the form of a lantern lecture. Excursions were made to the Indian Iron and Steel Company, Limited's iron ore mines at Gua in the Singhbhum district, to the Kargali colliery of the Indian State Railways in the Bokaro coalfield, to Messrs. F. F. Chrestien and Company's mica mines in the Kodarma forest area, Hazaribagh, and to the Bengal Nagpur Railway Company's Argada colliery in the Southern Karanpura coalfield.

Three parts of the Transactions were published. The Government prize for the best paper published during the year was awarded to Mr. F. B. Kerridge for his paper on " The Working and Refining of Indian Kaolin with special reference to a Singhbhum Deposit ". Mr. Kerridge also received the Institute gold medal for the same paper. The Institute silver medal was awarded to Mr. H. Cecil Jones for his paper " Note on a Visit to the Iron Ore Area of Lake Superior, United States of America ", whilst the Institute bronze medal was awarded to Captain B. V. Mellon for his paper on " Steel Roof Supports at Balaghat manganese mine ". Mr. J. Mackie represented the Institute on the Governing Body of the Indian School of Mines, and Mr. L. Diamond on the Council of the Institute of Fuel, London, Mr. J. Thomas continued to serve on the Coal Dust Committee.

The Subsidence Committee whose appointment was mentioned in last year's report met five times during the year. A questionnaire was drawn up and circulated to colliery managers through the agents and general managers of the various colliery companies, whilst the Indian Mining Association, the Indian Mining Federation, the Colliery Managers Association, and the Indian Mine Managers Association were invited to appoint representatives to co-operate with the Committee in their investigations. The Indian Mining Association appointed Mr. J. Thomas; the Colliery Managers Association, Mr. B. Starks Field; and the Indian Mine Managers Association, Mr. B. K. Bose.

THE ASSOCIATION OF COLLIERY MANAGERS IN INDIA; THE INDIAN MINE MANAGERS ASSOCIATION; AND THE INDIAN COLLIERY EMPLOYEES ASSOCIATION.

The number of members of the Association of Colliery Managers in India during the year was 92. Some of the subjects dealt with by the Council were:—(1) restriction of the employment of women underground; (2) representation on the Mines Boards of Health; (3) amendments to the mine regulations; (4) education and training of subordinate officials; (5) maternity and child welfare schemes; (6) Royal Commission on Labour in India. Messrs. T. Morrison and D. W. Baron represented the Association on the Railways and Collieries Advisory Board. At one of the meetings Mr. A. Farquhar delivered an address entitled " Some Notes of Recent Developments in the Coalfields with reference to Education and Legislation ". Visits were paid to Argada colliery and to the Calcutta Docks.

The membership of the Indian Mine Managers Association increased from 137 to 166 during the year. Among the subjects dealt with by the Council were:—(1) Memorandum for the Royal Commission on Labour; (2) child welfare and maternity schemes; (3) basis for the allotment of wagons to collieries; (4) unemployment; (5) surface subsidences in the coalfields.

The Secretary of the Indian Colliery Employees Association, Jharia, reported that up to the end of the year 1929 the Association had not been registered under the Indian Trade Unions Act, 1926, and that owing to internal dissensions the organisation had made little, if any, progress He intimated that the number of members was about the same as in the previous year, and that provision was to be made for the reservation of seats (on the Council) for manual workers. One of the demands of the Association is " a general increase of at least fifty per cent. of wages ", and another is a reduction of the working hours to eight hours per day.

MINING BOARDS IN BENGAL, BIHAR AND ORISSA AND THE CENTRAL PROVINCES.

The Bengal Mining Board held only one meeting during the year. Among the subjects discussed at the meeting and by correspondence were (a) proposed new rule under the Bengal Mining Settlements Act, 1912, requiring the production of copies of title deeds by the new proprietor when a mine changes hands; (b) draft rules permitting representation of interests concerned before Courts appointed under Section 21 of the Indian Mines Act, 1923, to enquire into accidents in mines; and (c) the rules for coal mines made under Section 30 of the Indian Mines Act, 1923, amendment of the form of register of work persons to be maintained under Section 28. The non-official members of the Board were Messrs. P. S Keelan, C.I.E., Bhudev Prasanna Mukherjee, A. L. Ojha, M.L.C. and Mr. H. M. Tarlton.

No meetings of the Bihar and Orissa Mining Board for coal mines were held. Among the subjects dealt with by correspondence was the proposed amendment of the form of register of work persons to be maintained under Section 28 of the Indian Mines Act, 1923. The non-official members of the Board were Messrs. J. B. Argyle, A. L. Ojha, M L.C and J. Mackie.

No meeting of the Bihar and Orissa Mining Board for mines other than coal was held, the business being dealt with by correspondence. The non-official members of the Board were Messrs. G. A. Young and G. G. Dobbs

The Central Provinces Mining Board did not meet during the year, the business being dealt with by correspondence. The non-official members of the Board were Messrs. L. H. Bartlett, R. S. Davies and Rai Sahib Mathura Prasad.

COAL-DUST COMMITTEE.

The work of the Coal-Dust Committee was continued throughout the year. A series of experiments was carried out at the Indian School of Mines on the ignition of a coal-dust-air cloud by electric arcs. It was shown that it was possible to produce by this means inflammations of dusts from Indian coal seams. The Second Report of the Coal-Dust

Committee was published during the year and copies were distributed to owners, agents and managers of coal mines.

BOARD OF EXAMINERS.

Eight meetings of the Board of Examiners were held during the year. The non-official members were Messrs. J. Mackie, N. N. Sarkar and J. B. Wardlaw. The local examiners appointed were Messrs. A. Farquhar and J. E. Phelps for coal mine managers' first class certificates, Messrs. J. G. Cunningham, J. D. B. Allen, S. M. Chatterjee and W. Robb for coal mine managers' second class certificates, and Mr. Alex. R. Roy for coal mine surveyors' certificates. Messrs. J. H. Lang, W. Kirby and N. Barraclough, Inspectors of Mines, were the official examiners, and acted as secretaries.

Six first class and two second class certificates of competency were granted in lieu of British certificates of the same class. At the examinations for coal mine managers' certificates held at Dhanbad in February 66 candidates sat for first class certificates and 98 for second class certificates. Four first class and nine second class certificates were granted. At the examination for coal mine surveyors' certificates of competency held at Dhanbad in November there were forty-three candidates of whom seven were successful.

Three hundred and fifty-three persons attended examinations for coal mine sirdars' certificates of competency and 251 certificates were granted. Out of 349 holders of sirdars' certificates examined in gas testing 183 were successful and their certificates were duly endorsed to that effect. Two sirdars' certificates were granted in lieu of British certificates of the same class. Under Coal Mines Regulation 49 the certificates of four sirdars were suspended, each for six months.

OFFICIAL DUTIES, 1929.

Mr. R. R. Simpson, Chief Inspector, was on leave from 3rd May to 2nd November.

Mr. J. H. Lang, Inspector, No. 2 Circle, officiated as Chief Inspector from 3rd May to 2nd November.

Mr. W. Kirby, Inspector, held charge of No. 1 Circle, throughout the year.

Mr. N. Barraclough, Inspector, held charge of No. 2 Circle, from 3rd May to 2nd November.

Mr. H. M. Mitra, Electric Inspector, was on leave from 21st January to 12th February, and again from 4th May to 18th July.

Mr. G. S. Cameron and Mr. N. G. Chatterjee, Junior Inspectors, were on duty throughout the year.

Mr. J. F. Waters, Junior Inspector, was on leave from 27th April to 30th October.

Mr. H. K. Chatterjee, Junior Inspector, was on leave from 19th May.

Mr. A. Young, Junior Inspector, was on duty throughout the year.

The number of coal mines worked during the year was 548, as compared with 556 in 1928. The number of metalliferous (including stone) mines at work increased from 601 in 1923 to 1,393 in 1928. In 1929 the number was 1,184, the decrease being due to the closing down of many mica, manganese and tin mines.

During the year 1,016 mines were inspected and many of them several times. 2,388 separate inspections were made. The cause and circumstances of practically all fatal accidents, serious accidents of importance, and all complaints of breaches of regulations and rules were investigated. Many inspections were made on the invitation of mine-owners, superintendents or managers desirous of obtaining advice on safety matters. An increasing proportion of the time of Inspectors is occupied in investigating cases of actual or threatened damage to dwelling houses and roads by reason of the underground workings of coal mines.

Orders were issued as follows:—

Section, Regulation or Rule.	No. of orders.
Under Section 19 (2)	3
Under Coal Mines Regulation 23	6
Under Coal Mines Regulation 76 (2)	2
Under Coal Mines Regulation 106	1
Under Coal Mines Regulation 93	1
Under Rule 14-A. of the Rules made by the Governments of Bengal and Bihar and Orissa	16

Exemptions, partial or complete, and permissions were granted as follows:—

Regulation	No of cases
Under Coal Mines Regulation 53	4
Under Coal Mines Regulation 88	4
Under Coal Mines Regulation 116	1

In a circular, dated 14th November 1929, approval for use in coal mines in British India was accorded to (a) all safety lamps mentioned in the list of safety lamps approved in pursuance of Section 33 of the Coal Mines Act, 1911, (Great Britain) as amended by the Coal Mines General Regulations (Safety Lamps), 1927, and described in the schedules to the various safety lamps orders made under that section; and (b) the American Everready Safety Flash light (No. 2695) approved by the Bureau of Mines, United States of America, and carrying the approval label of that authority.

Information was received of two cases of fires in coal stocks on the surface, fifteen underground fires, five collapses of underground workings and two irruptions of water into mines.

The number of original cases under the Land Acquisition (Mines) Act, 1885, at the end of 1929 stood at 602, sixteen of which were cases disposed of during the year. There were eleven applications for modifications of restrictions and eleven complaints of violations of restrictions, all of which were dealt with. The Act applies to Bengal and Bihar and Orissa only. In other provinces where Government owns the minerals, Local Governments were advised as to the restrictions necessary in cases where mine-owners have sought permission to work minerals beneath railways, villages, etc.

I have the honour to be,

Sir,

Your most obedient servant,

R. R. SIMPSON,

Chief Inspector of Mines in India.

DIX I.

AND MINERALS.

No. I.

year 1929 at mines under the Indian Mines Act.

persons employed daily in and about the mines

Open workings.								Total Underground and Open workings.	Surface						Grand Total.
Males						Females.	Total Males and Females		Males.				Females	Total Males and Females.	
Overmen and Sirdars	Coal-cutters	Loaders	Other skilled labour	Other unskilled labour.	Total Males.				Clerical and supervising staff	Skilled labour	Unskilled labour	Total Males			
A.L.															
8	81	165	116	277	647	262	909	2,624	38	167	460	665	164	829	3,453
...	.	.	.	..				444	14	66	151	231	..	231	675
8	81	165	116	277	647	262	909	3,068	52	233	611	896	164	1,060	4,128
...	..	.	.	..			.	86		5	17	22	...	22	108
..	..	..					.	74	1	17	12	30		30	104
..	..	...		.		.		160	1	22	29	52	.	52	212
1	3	..	..	5	9	7	16	143	17	7	1	25	8	33	176
.	...	...		..			..	9		1	3	4	7	11	20
8	150	6	42	374	583	617	1,200	30,558	1,509	3,335	5,207	9,951	3,596	13,547	44,105
9	153	8	43	379	591	624	1,215	30,713	1,526	3,343	5,211	9,980	3,611	13,591	44,301
10	93	26	25	31	185	85	270	5,160	153	428	953	1,569	505	2,074	7,234
52	608	68	43	331	1,102	773	1,875	45,879	1,847	4,759	11,121	17,727	6,489	24,216	70,095
	.	..			..		..	281	37	35	81	153	71	224	505
136	3,390	600	129	2,620	6,835	5,610	12,445	13,650	143	616	1,542	2,301	430	2,731	16,381
5	111	21	4	2	143	134	277	7,383	100	198	1,341	1,639	557	2,196	9,579
1	407	300	96	436	1,236	442	1,678	2,597	73	179	405	657	192	849	3,446
...	...	..					...	7	3	2	4	9	8	17	24
1	3	..	.		4	3	7	7			.		..	...	7
..	16	4	1	3	24		24	44	2		11	13	2	15	59
193	4,627	947	295	3,452	9,517	7,057	16,574	75,017	2,389	6,217	15,463	24,068	8,254	32,322	107,339

DIX I.

AND MINERALS.

No. I.

year 1929 at mines under the Indian Mines Act.

persons employed daily in and about the mines

Open workings								Total Underground and Open workings	Surface						
Males.						Females	Total Males and Females		Males				Females	Total Males and Females.	Grand Total.
Overmen and Sirdars	Coal-cutters	Loaders.	Other skilled labour	Other unskilled labour.	Total Males.				Clerical and supervising staff	Skilled labour	Unskilled labour	Total Males			
AL.															
6	81	165	116	277	647	202	909	2,624	38	167	460	665	164	829	3,453
...	.	...	...	...		.		444	14	60	151	231	..	231	675
6	81	165	116	277	647	202	909	3,068	52	233	611	896	164	1,060	4,128
...	...	...	.	.			...	86		6	17	22	..	22	108
..	...	..			.		.	74	1	17	12	30		30	104
...	...	...	...	...		...	..	160	1	22	29	52	..	52	212
1	3	...	..	5	9	7	16	143	17	7	1	25	8	33	176
...	...	...	...	...	..	...	...	9		1	3	4	7	11	20
6	150	8	42	374	582	617	1,199	30,558	1,509	3,235	5,207	9,951	3,596	13,547	44,105
9	153	8	42	379	591	624	1,215	30,712	1,536	3,243	5,211	9,980	3,611	13,591	44,303
10	92	28	25	30	185	85	270	6,160	163	429	955	1,569	505	2,074	7,234
33	628	68	43	331	1,103	773	1,875	45,879	1,847	4,759	11,121	17,727	6,489	24,216	70,095
...	...	...	..		...	...	...	281	37	35	81	153	71	224	505
136	3,390	800	120	2,189	6,635	5,620	12,445	13,650	143	616	1,542	2,301	430	2,731	16,290
3	111	21	4	3	141	134	275	7,383	100	193	1,341	1,639	557	2,196	9,579
1	407	306	94	418	1,226	442	1,668	2,497	73	179	405	657	192	849	3,446
...	.	...	...	.	..	...	...	7	3	2	4	9	8	17	24
1	3	...	...	...	4	3	7	7	...	..	...	...	...	...	7
...	16	4	1	3	24	..	24	44	2	...	11	13	2	15	5
193	4,627	947	293	5,452	9,517	7,057	16,574	75,017	2,355	6,217	15,452	24,063	8,254	32,322	107,33

APPEN

STATISTICS OF MINES

Table

Number of workeis and output of mineials during the

Province	District and Mineral field	Total Output.	Average number of							
			Underground.							
			Males.							
			Overmen and Sirdars.	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.	Females.	Total Males and Females.
		Tons.								CO
Assam	Lakhimpur	163,987	83	338	410	278	600	1,715	...	1,715
	Naga Hills	58,558	18	54	86	83	303	444		444
	Total	321,545	101	392	496	361	909	2,159	...	2,159
Baluchistan	Quetta-Pishin	7,831	9	30	46	1	...	86	...	86
	Sibi Khost	3,163	7	38	29	...	...	74	...	74
	Total	10,084	16	68	75	1	...	160	...	160
Bengal	Bankura } Raniganj coalfield	9,379	5	48	17	2	25	97	33	120
	Birbhum } Raniganj coalfield	867	2	3	2	...	1	8	1	9
	Burdwan } Raniganj coalfield	5,954,858	834	11,519	2,799	3,112	4,301	22,565	6,794	29,359
	Total	5,965,104	841	11,570	2,818	3,114	4,327	22,670	6,627	29,407
Bihar and Orissa	Manbhum—Raniganj coalfield (part of)	780,836	111	2,082	205	385	947	3,820	1,070	4,890
	Jharia "	10,732,355	1,243	16,928	5,033	4,355	5,632	33,180	10,824	44,004
	Hazaribagh—Jharia coalfield (part of)	53,390	9	115	23	30	45	212	69	281
	Bokaro "	2,118,703	33	553	140	68	122	941	273	1,214
	Giridih "	771,105	227	2,752	1,401	173	924	5,477	1,631	7,108
	Karanpura " (part of)	467,030	13	426	167	44	50	700	219	919
	Ranchi—Karanpura coalfield (part of)	97	1	2	2		1	6	1	7
	Palamau—Daltonganj coalfield	1,522	...	...	...	...	...	...	...	...
	Hutar "	357	2	10	2	3	...	17	3	20
	Carried over	14,934,455	1,639	22,867	7,058	5,068	7,721	44,353	14,090	58,443

DIX I.

AND MINERALS.

No. I.

year 1929 at mines under the Indian Mines Act.

persons employed daily in and about the mines

Open workings.								and	Surface						
Males							and		Males					and	
Overmen and Sirdars	Coal-cutters	Loaders.	Other skilled labour	Other unskilled labour	Total Males.	Females	Total Males Females	Total Underground Open workings.	Clerical and supervising staff	Skilled labour	Unskilled labour	Total Males	Females	Total Males Females.	Grand Total.
A.L.															
8	81	165	116	277	647	202	009	2,024	38	167	460	665	164	829	3,453
..	..	...	...	..				444	14	00	151	231	...	231	675
8	81	165	116	277	647	202	909	3 068	52	233	611	896	164	1,060	4,128
..	..						...	56		6	17	22	...	22	109
	...	..			.			74	1	17	12	30		30	104
...	...	...	..	..		.		160	1	22	29	52	..	52	212
1	3	..	.	5	9	7	16	145	17	7	1	25	8	33	178
..	..	...		.			..	9		1	3	4	7	11	20
8	150	8	43	374	633	617	1,100	30,558	1,600	3,235	5,207	9,951	3,596	13,547	44,105
9	163	8	43	379	591	624	1,215	30,712	1,626	3,243	5,211	9,980	3,611	13,591	44,303
10	92	28	25	31	185	85	270	5,160	163	429	953	1,569	505	2,074	7,234
53	608	68	43	331	1,103	773	1,875	45,879	1,847	4,759	11,121	17,727	6,489	24,216	70,095
	...	..			—		..	281	37	35	81	153	71	224	505
130	3,390	800	120	2,620	6,635	5,620	12,445	13,650	143	616	1,542	2,301	430	2,731	16,390
3	111	21	4	2	141	134	275	7,383	100	193	1,341	1,639	457	2,196	9,579
1	607	200	63	418	1,290	412	1,778	2,497	73	179	405	657	192	849	3,446
—	.	-					—	7	3	2	4	9	8	17	24
1	3	.	—		4	3	7	7	—		—	—	—	—	7
.	16	4	1	3	24		24	44	2	...	11	13	2	15	59
193	4,627	947	293	3,452	9 517	7 057	16,574	75,017	2,355	6,217	15,463	24 063	8,224	32,222	107,229

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and Mineral field	Total Output.	Average number of							
			Underground.							
			Males.						Females.	Total Males and Females.
			Overmen and Sirdars	Coal-cutters	Loaders	Other skilled labour.	Other unskilled labour.	Total Males.		
		Tons.								CO
Assam	Lakhimpur	263,987	83	338	410	278	606	1,715	—	1,715
	Naga Hills	58,558	18	54	56	83	203	444	.	444
	Total	321,545	101	392	406	361	809	2,159	...	2,159
Baluchistan	Quetta-Pishin	7,831	9	30	46	1	..	86	.	86
	Sibi Khost	3,163	7	38	29	...	...	74	...	74
	Total	10,994	16	68	75	1	...	160	...	160
Bengal	Bankura } Raniganj coalfield	9,379	5	48	17	2	25	97	32	129
	Birbhum } Raniganj coalfield	867	2	3	2	...	1	8	1	9
	Burdwan } Raniganj coalfield	5,954,858	834	11,519	2,799	3,112	4,301	23,505	6,794	29,350
	Total	5,965,104	841	11,570	2,818	3,114	4,327	23,670	6,627	29,497
Bihar and Orissa.	Manbhum—Raniganj coalfield (part of)	780,836	111	2,082	295	385	947	3,820	1,070	4,890
	Jharia ,,	10,732,355	1,243	16,028	5,032	4,353	5,632	33,180	10,824	44,004
	Hazaribagh—Jharia coalfield (part of)	63,390	0	115	23	20	45	212	69	281
	Bokaro ,,	2,118,703	33	553	146	68	122	941	273	1,314
	Giridih ,,	771,105	227	2,752	1,401	173	924	5,477	1,631	7,108
	Karanpura ,, (part of)	467,030	13	420	167	44	50	700	219	919
	Ranchi—Karanpura coalfield (part of)	97	1	2	3	.	1	6	1	7
	Palamau—Daltonganj coalfield	1,632	...	...	.	.	...	..	...	...
	Hutar	357	2	10	2	3	. .	17	3	20
	Carried over	14,934,465	1,650	22,867	7,058	5,068	7,721	44,353	14,090	58,443

DIX I.

AND MINERALS.

No. I.

year 1920 at mines under the Indian Mines Act.

persons employed daily in and about the mines.

Open workings.								Total Underground and Open workings.	Surface.						Grand Total.
Males.						Females.	Total Males and Females.		Males.				Females.	Total Males and Females.	
Overmen and Sirdars.	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
A.L.															
8	81	165	116	277	647	202	909	2,621	93	167	460	663	164	829	3,453
..	..	..	...	...	.	..	...	444	14	66	151	231	...	231	675
8	81	165	116	277	647	202	909	3,068	62	233	611	890	164	1,060	4,128
...	..	...	...	..	..	.	...	86	..	5	17	22	...	22	108
...	–	...		..	..	...	...	74	1	17	13	30	..	30	104
..	...	...	...	...	...	...	...	160	1	32	29	52	...	52	212
1	3	...	...	5	9	7	16	145	17	7	1	25	8	33	178
...	...	...	...	...	..	...	...	9	..	1	3	4	7	11	20
8	150	8	42	374	583	617	1,190	30,558	1,509	3,235	5,207	9,951	3,596	13,547	44,105
9	153	8	42	379	591	624	1,215	30,712	1,526	3,243	5,211	9,980	3,611	13,591	44,303
10	93	28	25	39	195	85	270	5,160	163	423	953	1,569	505	2,074	7,234
83	603	63	43	331	1,103	772	1,875	45,879	1,847	4,759	11,121	17,727	6,489	24,216	70,095
..	...	..	..		...	...	...	231	37	25	61	153	71	224	505
138	3,390	500	120	2,629	6,835	5,630	12,465	13,659	143	616	1,543	2,301	430	2,731	16,390
3	111	21	4	2	141	134	275	7,363	100	193	1,341	1,639	557	2,196	9,579
1	407	300	96	418	1,236	442	1,678	2,197	73	179	405	657	192	849	3,446
...	...	...	.		...	...	...	7	3	2	4	9	8	17	24
1	2	...	...	–	4	3	7	7	...	...	...	...	...	...	7
..	16	4	1	3	24	...	24	44	5	...	11	13	3	13	59
193	4,627	947	293	3,452	9,517	7,057	16,574	75,017	3,359	6,217	13,463	24,068	8,254	32,322	

APPEN

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and Mineral field.	Total Output.	Average number of								
			Underground.								
			Males.								
			Overmen and Sirdars.	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.	Females.	Total Males and Females.
		Tons.								CO
Assam	Lakhimpur	263,087	83	338	410	278	606	1,715	...	1,715
	Naga Hills	58,558	18	54	56	83	203	444	...	444
	Total	321,545	101	392	406	361	809	2,159	...	2,159
Baluchistan	Quetta-Pishin	7,821	9	30	46	1	...	86	...	86
	Sibi Khost	3,163	7	38	29	...	...	74	...	74
	Total	10,984	16	68	75	1	...	160	...	160
Bengal	Bankura (Raniganj coalfield)	9,379	5	48	17	2	25	97	33	129
	Birbhum (Raniganj coalfield)	867	2	3	2	...	1	8	1	9
	Burdwan (Raniganj coalfield)	5,954,858	834	11,519	2,799	3,112	4,301	23,565	6,794	29,330
	Total	5,965,104	841	11,570	2,818	3,114	4,327	23,670	6,827	30,497
Bihar and Orissa.	Manbhum— Raniganj coalfield (part of)	780,836	111	2,092	205	353	947	3,620	1,070	4,890
	Jharia "	10,732,565	1,243	16,928	5,033	4,355	5,633	33,180	10,824	44,004
	Hazaribagh— Jharia coalfield (part of)	63,300	9	115	23	20	45	212	69	281
	Bokaro "	2,119,703	33	552	140	68	122	941	273	1,214
	Giridih "	771,165	237	2,752	1,401	173	924	5,477	1,631	7,106
	Karanpura " (part of)	467,030	13	420	167	44	50	700	219	919
	Ranchi— Karanpura coalfield (part of)	97	1	2	3	..	1	6	1	7
	Palamau— Daltonganj coalfield	1,632	..	...	...	..	...	...	—	...
	Hutar "	357	3	10	2	3	..	17	3	20
	Carried over	14,934,455	1,639	22,867	7,058	5,068	7,721	44,353	14,090	58,443

DIX I.

AND MINERALS.

No. I.

year 1929 at mines under the Indian Mines Act.

persons employed daily in and about the mines

Open workings.								Total Underground and Open workings.	Surface.						Grand Total.
Males						Females	Total Males and Females		Males.				Females.	Total Males and Females.	
Overmen and Sirdars	Coal-cutters	Loaders	Other skilled labour	Other unskilled labour.	Total Males.				Clerical and supervising staff.	Skilled labour	Unskilled labour.	Total Males.			
AL															
8	81	105	116	277	647	202	909	3,024	33	167	460	663	164	829	3,453
.		..	...		.		..	444	14	66	151	231	...	231	675
8	81	105	116	277	647	202	909	3,008	52	233	611	896	164	1,000	4,128
.		.					...	60	...	5	17	22	...	22	103
	..	.			.		..	74	1	17	13	30	...	30	104
..		...	..	..		...	..	160	1	22	29	52	...	52	212
1	3	...	...	5	9	7	16	145	17	7	1	25	8	33	178
.	.	...	.	...		..	..	9	...	1	3	4	7	11	20
6	150	8	42	374	583	617	1,100	30,558	1,509	3,235	5,207	9,951	3,596	13,547	44,105
9	153	8	43	379	591	624	1,215	30,712	1,526	3,243	5,211	9,980	3,611	13,591	44,303
10	92	26	25	39	185	85	270	5,160	153	429	989	1,569	505	2,074	7,234
52	608	63	43	331	1,103	773	1,875	45,879	1,847	4,759	11,121	17,727	6,489	24,216	70,095
	...	..			...	..	...	291	37	75	81	193	71	274	505
126	3,390	500	120	2,621	6,635	5,810	12,445	13,850	143	616	1,542	2,301	430	2,731	16,580
3	111	21	4	2	141	134	275	7,385	100	193	1,341	1,639	557	2,196	9,579
1	407	300	96	416	1,230	412	1,676	2,497	73	179	405	657	192	840	2,446
—	...	.	...		...	..	...	7	3	2	4	9	8	17	24
1	3	...	...	...	4	3	7	7	...	...	—	—	...	—	7
.	16	4	1	3	24	...	24	44	2	..	11	13	2	15	[illegible]
193	4,627	947	293	3,452	9,517	7,057	16,574	75,017	2,353	6,217	15,463	24,063	8,224		

APPEN

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of — Underground. — Males. — Overmen and Sirdars.	Coal cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.	Females.	Total Males and Females.
		Tons.								
										CO
	Brought forward .	24,324,425	1,653	22,857	7,056	5,063	7,721	44,353	14,090	58,443
Bihar and Orissa—concld.	Sambalpur—Hingir Rampur	36,274	6	43	43	42	—	133	29	162
	Sonthal Parganas—									
	Jairity	42,722	13	144	25	45	34	271	24	295
	Raniganj coalfield (part of).	73,123	14	217	—	34	84	349	73	422
	Total .	25,052,074	1,672	23,271	7,125	5,188	7,839	45,115	14,216	59,331
Central Provinces.	Chanda	202,061	33	691	336	106	274	1,440	158	1,598
	Chhindwara	680,270	77	1,746	554	383	339	3,099	679	3,778
	Total .	882,331	110	2,437	890	489	613	4,539	837	5,376
Punjab .	Jhelum	20,508	25	124	23	33	60	265		265
	Mianwali	19,064	6	43	35	6	17	107	.	107
	Shahpur	3,566	...	17	.	..	...	17	...	17
	Total .	43,138	31	184	58	39	77	389	..	389
	Grand Total (Coal) for 1929.	23,908,174	2,777	37,922	11,472	9,193	13,845	75,022	21,650	96,672
	Ditto of preceding year.	23,315,796	2,623	36,469	8,459	8,777	13,380	68,737	28,408	97,145
	Difference .	+592,378	+154	+1,453	+3,013	+416	+1,275	+6,285	—6,758	—473

DIX I.

AND MINERALS.

No. I.

year 1929 at mines under the Indian Mines Act.

persons employed daily in and about the mines

Open workings								Total Underground and Open workings	Surface.						Grand Total.
Males						Females	Total Males and Females.		Males				Females	Total Males and Females.	
Overmen and Sirdars	Coal-cutters	Loaders	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
A.L															
8	81	165	116	277	647	262	909	2,624	39	167	460	665	164	829	3,453
.		.	..					444	14	60	151	231	...	231	675
8	91	165	116	277	647	262	909	3,068	62	233	611	896	164	1,060	4,128
.		.					.	60	..	5	17	22	...	22	108
.							...	74	1	17	12	30		30	104
..		.				--	..	160	1	23	29	52	...	52	212
1	3	.		5	9	7	16	145	17	7	1	25	8	33	178
		...	.	--		--	...	9	...	1	3	4	7	11	20
9	150	8	43	374	582	617	1,199	30,558	1,509	3,235	5,207	9,951	3,596	13,547	44,105
9	153	8	43	379	591	624	1,215	30,712	1,526	3,243	5,211	9,980	3,611	13,591	44,303
10	92	28	25	31	185	85	270	6,160	163	428	989	1,569	505	2,074	7,234
52	603	83	43	331	1,102	773	1,875	45,879	1,847	4,759	11,121	17,727	6,499	24,216	70,095
	...	..			...	--	...	281	37	35	81	153	71	224	505
120	3,390	560	120	2,621	6,833	5,620	12,445	13,650	143	616	1,542	2,301	430	2,731	16,390
3	111	21	4	2	141	134	275	7,393	100	193	1,341	1,639	557	2,196	9,579
1	407	300	98	416	1,230	442	1,678	2,597	73	179	405	657	192	849	3,446
---	..	.	--				---	7	3	2	4	9	8	17	24
1	3	.	---	--	4	3	7	7	---	..	---	---	---	---	7
.	18	4	1	3	24		24	44	2	...	11	13	2	15	59
193	4,627	947	293	3,432	9,517	7,057	16,574	73,017	2,355	6,217	15,493	24,065	8,254	32,322	107,339

APPEN

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

			Average number of								
			Underground.								
			Males.								
Province.	District and Mineral field.	Total Output.	Overmen and Sirdars.	Coal cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.	Females.	Total Males and Females.	
		Tons.									CO
	Brought forward .	[illegible]	[illegible]	[illegible]	[illegible]	3,068	[illegible]	44,553	14,070	[illegible]	
Bihar and Orissa—contd.	[illegible]—[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	—	123	[illegible]	[illegible]	
	Special Purposes—										
	[illegible]	[illegible]	[illegible]	144	[illegible]	[illegible]	34	[illegible]	24	[illegible]	
	[illegible]	[illegible]	24	[illegible]	—	34	84	349	[illegible]	[illegible]	
	Total .	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14,216	[illegible]	
Central Provinces.	Chanda	[illegible]	[illegible]	[illegible]	[illegible]	126	274	1,440	156	1,598	
	Chhindwara	[illegible]	[illegible]	1,74[illegible]	[illegible]	[illegible]	339	3,099	676	3,775	
	Total .	[illegible]	[illegible]	2,427	[illegible]	489	613	4,539	837	[illegible]	
Punjab .	Jhelum	[illegible]	23	124	23	53	60	265	...	265	
	Mianwali	19,084	8	43	33	6	17	107	...	107	
	Shahpur . . .	3,308	...	17	...	...	...	17	...	[illegible]	
	Total .	43,190	31	184	48	59	77	389	...	[illegible]	
	Grand Total (Coal) for 1929 .	[illegible]	2,771	[illegible]	11,472	9,193	[illegible]	[illegible]	31,850	[illegible]	
	Ditto of preceding year.	[illegible]	[illegible]	[illegible]	[illegible]	8,777	12,359	[illegible]	28,408	[illegible]	
	Difference .	[illegible]	+133	+1,433	+3,013	+415	+1,278	+6,275	[illegible]	[illegible]	

DIX I.

AND MINERALS.

No. I.

year 1929 at mines under the Indian Mines Act.

persons employed daily in and about the mines

	Open workings.									Surface.						
	Males.									Males.						
	Overmen and Sirdars	Coal-cutters	Loaders	Other skilled labour.	Other unskilled labour	Total Males.	Females.	Total Males and Females.	Total Underground and Open workings.	Clerical and supervising staff.	Skilled labour	Unskilled labour.	Total Males.	Females.	Total Males and Females.	Grand Total.
A.L.																
	8	81	165	116	277	647	202	909	2,624	33	167	460	665	164	829	3,453
	...	...	.	...	..	.	...	...	445	14	60	151	231	...	231	675
	8	81	165	116	277	647	202	909	3,068	62	233	611	896	164	1,060	4,128
	...	..	..	...	...	.	.	...	66	...	5	17	22	...	22	108
	.	..	..	.	.	.	...	...	74	1	17	12	30	...	30	104
	..	.	...	...	...	...	...	...	160	1	22	29	52	...	52	212
	1	3	...	..	5	9	7	16	145	17	7	1	25	8	33	178
	..		...	..	...	...	...	...	9	...	1	3	4	7	11	20
	8	150	8	42	374	582	617	1,199	30,558	1,509	3,235	5,207	9,951	3,596	13,547	44,105
	9	153	8	42	379	591	624	1,215	30,712	1,526	3,243	5,211	9,980	3,611	13,591	44,303
	10	93	23	23	39	188	85	270	5,160	163	429	953	1,569	505	2,074	7,234
	53	608	63	43	331	1,103	773	1,875	45,879	1,847	4,759	11,121	17,727	6,439	24,216	70,095
		...	..			...	...	...	291	37	15	81	133	71	224	805
	136	3,390	500	130	[illegible]	6,633	5,620	12,445	12,630	143	616	1,342	2,301	430	2,731	16,320
	3	111	21	4	2	141	134	275	7,353	100	198	1,341	1,639	557	2,196	9,572
	1	407	300	96	416	1,236	442	1,678	2,897	73	179	405	657	192	840	3,446
	...	...	...	..		...	...	...	7	3	2	4	9	8	17	24
	1	2	..	...	...	4	3	7	7	...	...	...	...	...	...	7
	.	16	4	1	3	24	.	24	44	2	...	11	13	2	15	59
	193	4,627	947	295	3,452	9,517	7,057	16,574	75,017	2,255	8,217	15,463	24,063	8,234	32,322	107,339

APPEN

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and Mineral field.	Total Output.	Average number of							
			Underground.							
			Males.						Females.	Total Males and Females.
			Overmen and Sirdars.	Coal-cutters	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males		
		Tons								CO
Assam	Lakhimpur	162,987	83	338	410	278	606	1,715	...	1,715
	Naga Hills	58,558	18	54	56	83	203	444	...	444
	Total	321,545	101	392	496	361	809	2,159	...	2,159
Baluchistan	Quetta-Pishin	7,821	9	30	46	1	..	86		86
	Sibi Khost	3,163	7	38	29	...	...	74	...	74
	Total	10,984	16	68	75	1	...	160	...	160
Bengal	Bankura } Raniganj coalfield	9,379	5	48	17	2	25	97	32	129
	Birbhum } Raniganj coalfield	867	2	3	2	..	1	8	1	9
	Burdwan } Raniganj coalfield	5,954,858	834	11,619	2,799	3,112	4,301	23,565	6,794	29,359
	Total	5,965,104	841	11,670	2,818	3,114	4,327	23,670	6,827	29,407
Bihar and Orissa.	Manbhum— Raniganj coalfield (part of)	780,836	111	2,082	205	383	947	3,620	1,070	4,690
	Jharia "	10,732,355	1,243	16,028	5,022	4,355	5,632	33,180	10,824	44,004
	Hazaribagh— Jharia coalfield (part of)	53,300	0	115	23	20	45	212	60	281
	Bokaro "	2,118,703	33	553	146	68	122	941	273	1,214
	Giridih "	771,165	327	2,752	1,401	173	924	5,477	1,631	7,108
	Karanpura " (part of)	467,030	13	426	167	44	50	700	219	919
	Ranchi— Karanpura coalfield (part of)	27	1	2	2	..	1	6	1	7
	Palamau— Daltonganj coalfield	1,532	..	...	...	.	...	–	...	..
	Hutar "	357	2	10	2	3	...	17	3	20
	Carried over	14,934,455	1,630	23,867	7,058	5,068	7,721	44,353	14,090	58,443

DIX I.

AND MINERALS.

No. I.

year 1929 at mines under the Indian Mines Act.

persons employed daily in and about the mines

Open workings.								Total Underground and Open workings.	Surface.						Grand Total.
Males						Females	Total Males and Females		Males				Females	Total Males and Females.	
Overmen and Birdars	Coal-cutters	Loaders	Other skilled labour	Other unskilled labour.	Total Males.				Clerical and supervising staff	Skilled labour	Unskilled labour	Total Males			
A.L.															
8	81	165	116	277	647	262	909	2,024	38	167	460	665	164	829	3,453
...	..	.	..	.				444	14	60	151	231	...	231	675
8	81	165	116	277	647	262	909	3 068	52	233	611	896	164	1,060	4,128
...	.	..					...	86	..	5	17	22	...	22	108
..	...	..			.		.	74	1	17	12	30		30	104
..	..	...	.	.		...	.	160	1	33	29	52	...	52	212
2	3	..		5	9	7	16	145	17	7	1	25	8	33	178
		...				..	..	9	..	1	3	4	7	11	20
6	150	8	43	374	583	617	1,100	30,558	1,609	3,235	5,207	9,951	3,596	13,547	44,105
9	153	8	43	379	591	624	1,215	30,712	1,636	3,243	5,311	9,970	3,611	13,591	44,303
10	93	28	25	39	185	85	270	5,160	153	429	953	1,569	505	2,074	7,234
52	608	63	43	331	1,102	773	1,875	45,879	1,847	4,759	11,121	17,727	6 499	24,216	70,095
	...						...	231	37	35	81	153	71	224	505
130	3,190	610	139	3,620	6,835	5,620	12,445	13,650	143	616	1,542	2,301	430	2,731	16,390
3	111	21	4	2	141	134	275	7,383	100	193	1,341	1,639	557	2,196	9,579
1	407	206	96	436	1,236	442	1,678	3,397	73	179	435	687	192	849	3,446
...							...	7	3	2	4	9	6	17	24
1	3	.			4	3	7	7	..	..	...	...	...	...	7
.	18	4	1	3	24		24	44	2	...	11	13	2	15	59
,193	4,627	947	293	3 452	9 517	7,057	16,574	75,017	3,359	9,217	15 463	24 063	8,254	32,322	107,339

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and Mineral field.	Total Output.	Average number of — Underground. — Males. — Overmen and Sirdars	Coal-cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.	Females.	Total Males and Females.
		Tons								CO
Assam	Lakhimpur	162,987	83	338	410	278	606	1,715	...	1,715
	Naga Hills	58,558	18	54	56	83	203	444	...	444
	Total	321,545	101	392	496	361	809	2,159	...	2,159
Baluchistan	Quetta-Pishin	7,831	9	30	46	1	...	86		86
	Sibi Khost	3,163	7	38	29	...	...	74	...	74
	Total	10,984	16	68	75	1	..	160	...	160
Bengal	Bankura (Raniganj coalfield)	9,379	5	48	17	2	25	97	33	129
	Birbhum (Raniganj coalfield)	867	2	3	2	...	1	8	1	9
	Burdwan (Raniganj coalfield)	5,934,858	834	11,519	2,799	3,113	4,301	22,565	6,794	29,359
	Total	5,965,104	841	11,570	2,818	3,114	4,327	22,670	6,627	29,407
Bihar and Orissa.	Manbhum— Raniganj coalfield (part of)	780,836	111	2,082	295	365	947	3,820	1,070	4,890
	Jharia „	10,732,355	1,243	16,928	5,023	4,355	5,632	33,180	10,824	44,004
	Hazaribagh— Jharia coalfield (part of)	53,390	9	115	23	20	45	212	69	281
	Bokaro „	2,118,703	33	553	146	68	122	941	273	1,214
	Giridih „	771,165	227	2,752	1,401	173	924	5,477	1,631	7,108
	Karanpura „ (part of)	467,030	13	420	167	44	50	700	219	919
	Ranchi— Karanpura coalfield (part of)	97	1	2	2	..	1	6	1	7
	Palamau— Daltonganj coalfield	1,632	...	..	...	..	...	..	...	...
	Hutar „	357	3	10	2	3	..	17	3	20
	Carried over	14,934,435	1,639	22,867	7,058	5,068	7,721	44,353	14,090	58,443

DIX I.

AND MINERALS.

No. I.

year 1929 at mines under the Indian Mines Act.

persons employed daily in and about the mines

Open workings									Surface.						
Males									Males.						
Overmen and Sirdars	Coal-cutters	Loaders	Other skilled labour	Other unskilled labour	Total Males	Females	Total Males and Females.	Total Underground and Open workings	Clerical and supervising staff	Skilled labour	Unskilled labour	Total Males.	Females.	Total Males and Females.	Grand Total.
A.L.															
8	81	165	116	277	647	262	909	2,621	39	167	460	665	164	829	3,453
...	..	..	..	.			.	441	14	66	151	231	...	231	675
8	81	165	116	277	647	262	909	3,068	52	233	611	896	164	1,060	4,128
..	..	.	..				...	60	..	5	17	22	...	22	103
..	..				.		.	74	1	17	12	30		30	104
..	..	...		.		.	.	160	1	23	29	53	...	52	212
1	3	.		5	9	7	16	145	17	7	1	25	8	33	178
..		..				..	.	9		1	3	4	7	11	20
8	150	8	42	374	582	617	1,199	30,558	1,509	3,235	5,207	9 951	3,596	13,547	44,105
9	153	8	42	379	591	624	1,215	30 712	1,526	3,243	5,211	9 9*0	3,611	13,591	44,303
10	93	28	25	30	186	85	270	6,160	163	428	953	1,569	505	2,074	7,234
52	609	63	43	331	1,103	773	1,875	45,879	1,547	4,759	11,121	17,727	6,499	24,216	70,095
	..	..					..	291	37	35	81	153	71	224	505
196	3,390	800	[illegible]	2 620	6,633	5,620	12,445	13,050	143	616	1,542	2,301	430	2,731	16,290
3	111	21	4	3	141	134	275	7,383	100	193	1,341	1,639	557	2,196	9,579
1	407	300	[illegible]	4 6	1,236	442	1,678	2,697	73	179	405	657	192	849	3,446
—	.						—	7	3	2	4	9	8	17	24
1	3				4	3	7	7	...	..	...	...	...	...	7
..	38	4	1	3	24		24	44	2	...	11	13	2	15	59
193	4 627	947	293	3 452	9 517	7,057	16,574	75,017	2,388	6,217	15,453	24 063	8,254	32,322	[illegible]

APPEN

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and Mineral field.	Total Output.	Average number of							
			Underground.							
			Males.							
			Overmen and Sirdars.	Coal cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.	Females.	Total Males and Females.
		Tons								CO
	Brought forward	14,934,455	1,639	22,867	7,056	5,068	7,721	44,353	14,090	58,443
Bihar and Orissa—*contd.*	Sambalpur—Hingir Rampur	36,774	0	43	43	41	...	132	29	161
	Sonthal Parganas—									
	Jainty	40,733	13	144	35	45	34	271	24	295
	Raniganj coalfield (part of)	73,113	14	217	...	34	84	349	73	422
	Total	15,085,074	1,673	23,271	7,133	5,189	7,839	45,105	14,216	59,321
Central Provinces	Chanda	202,061	33	691	336	106	274	1,440	156	1,596
	Chhindwara	*680,270*	*77*	*1,746*	*554*	*383*	*339*	*3,099*	*679*	*3,778*
	Total	882,331	110	2,437	890	489	613	4,539	637	5,276
Punjab	Jhelum	20,506	25	134	23	33	60	265	...	265
	Mianwali	19,064	6	43	35	6	17	107	...	107
	Shahpur	3,560	.	17	..	...	...	17	...	17
	Total	43,130	31	194	58	39	77	389	...	389
	Grand Total (Coal) for 1920	22,308,174	2,771	37,922	11,472	9,193	13,648	75,022	21,880	96,902
	Ditto of preceding year	21,515,796	2,633	36,499	8,459	8,777	12,369	68,727	28,408	97,135
	Difference	+792,378	+138	+1,423	+3,013	+416	+1,276	+6,295	—6,528	—233

DIX I—*contd.*

AND MINERALS—*contd.*

No. I—*contd.*

year 1929 at mines under the Indian Mines Act—*contd.*

persons employed daily in and about the mines

Open workings								Total Underground and Open workings.	Surface.						Grand Total.
Males						Females.	Total Males and Females.		Males.				Females.	Total Males and Females.	
Overmen and Sirdars	Coal-cutters	Loaders.	Other skilled labour.	Other unskilled labour	Total Males.				Clerical and supervising staff.	Skilled labour	Unskilled labour.	Total Males.			
AL—*contd*															
193	4,627	947	298	3,462	9,517	7,057	16,574	75,017	2,188	6,217	15,463	24,068	8,254	32,322	107,339
.		..			.			161	.	49	.	49	9	58	219
	..							205	15	32	79	126	23	149	444
					.	.		422	30	49	80	158	24	193	614
193	4,627	947	298	3,432	9,517	7,057	16,574	75,805	2,433	6,346	15,622	24,401	8,320	32,721	108,616
.			.				..	1,598	63	106	250	419	107	516	2,114
1				10	11	2	13	3,791	91	406	810	1,307	444	1,751	5,542
1				10	11	2	13	5,389	144	512	1,060	1,716	551	2,267	7,656
...	..		..		..			263	23	14	142	161	..	181	444
.	.				..	..	..	107	7	4	79	90	6	96	203
2	25		.		27		27	44	4	46	.	50	—	50	94
2	25				27		27	416	36	64	221	321	6	327	743
213	4,898	1,120	476	4,118	10,793	7,945	18,738	1[illegible]	4,172	10,420	22,734	37,326	12,652	50,018	165,6[illegible]
212	5,400	515	455	3,021	9,443	8,019	17,462	114,597	4,003	11,017	21,990	36,007	13,415	49,542	164,139
+1	−574	+605	+21	+1,097	+1,350	−74	+1,276	+1,013	+132	+373	+744	+1,339	−723	+476	+1[illegible]

APPEN

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of							
			Underground.							
			Males.						Females.	Total Males and Females.
			Overmen and Sirdars.	Coal cutters.	Loaders.	Other skilled labour.	Other unskilled labour.	Total Males.		
		Tons.								CO
	Brought forward	14,934,455	1,639	22,867	7,058	5,068	7,721	44,353	14,090	58,443
Bihar and Orissa—contd.	Sambalpur—Hingir Rampur	36,774	6	43	43	41	..	133	29	161
	Sonthal Parganas—									
	Jainty	40,732	17	144	35	45	34	271	24	295
	Raniganj coalfield (part of)	73,113	14	217	...	34	84	349	73	412
	Total	15,085,074	1,673	23,271	7,135	5,188	7,839	45,105	14,216	59,321
Central Provinces.	Chanda	202,061	33	691	336	106	274	1,440	156	1,596
	Chhindwara	680,270	77	1,746	554	363	339	3,099	679	3,778
	Total	883,331	110	2,437	890	469	613	4,539	837	5,376
Punjab	Jhelum	20,506	25	124	23	33	60	265	...	265
	Mianwali	19,064	6	43	35	6	17	107	...	107
	Shahpur	3,566	.	17	..	..	..	17	...	17
	Total	43,136	31	184	58	39	77	389	...	389
	Grand Total (Coal) for 1920.	22,308,174	2,771	37,922	11,472	9,191	13,645	75,022	21,850	96,102
	Ditto of preceding year.	21,515,706	2,633	36,499	8,459	8,777	12,369	68,737	28,408	97,135
	Difference	+792,378	+138	+1,423	+3,013	+414	+1,276	+6,265	−6,558	−293

DIX I—*contd.*

AND MINERALS—*contd.*

No. I—*contd.*

yea1 1929 at mines under the Indian Mines Act—*contd.*

persons employed daily in and about the mines

Open workings.									Surface.						
Males						Females	Total Males and Females.	Total Underground and Open workings	Males				Females.	Total Males and Females	Grand Total.
Overmen and Sirdars	Coal-cutters	Loaders	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff.	Skilled labour	Unskilled labour.	Total Males.			
AL—*contd*															
193	4 627	917	208	3,452	9 517	7,057	16,574	75,017	2,[illegible]88	6,217	15,463	24,068	8 254	32 322	107,339
								101		49	.	49	9	58	319
								305	15	33	79	126	23	149	444
								472	20	49	80	158	24	192	674
193	4,627	917	208	3,452	9 517	7,057	16,574	75,895	3,433	6,340	15,622	24,401	8,320	32,721	108,616
								1,809	53	106	250	409	107	516	2,114
1				10	11	2	13	3 791	91	400	810	1,307	444	1,731	5,542
1				10	11	2	13	5 580	144	512	1,060	1,716	551	2 267	7,656
...	...		...		..			265	23	14	142	151	..	181	446
					..			107	7	4	79	90	6	96	203
2	25				27		27	44	4	45	..	50	...	50	94
2	25				27		27	416	36	64	221	321	6	327	743
213	4 656	1,120	456	4,115	10,793	7,945	18 738	1,[illegible]	4 1[illegible]	11,420	22 734	3[illegible],[illegible]6	12,622	50 018	165,[illegible]
212	5,400	315	43[illegible]	3,021	9,448	8,019	17,485	114,597	4 0[illegible]	10 91[illegible]	21,03[illegible]	36 [illegible]07	13,415	49,542	164 [illegible]
+1	—774	+805	+21	+1 093	+1,320	—74	+1,2[illegible]	+1 045	+172	+5[illegible]	+[illegible]	+1,[illegible]	—793	+476	+1,[illegible]

APPEN

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed — Underground. — Males. — Foremen and Mates	Miners	Other skilled labour.	Other unskilled labour	Total Males.	Females.	Total Males and Females.
									IRON
		Tons.							
Bihar and Orissa	Singhbhum	1,390,245	...	.	.	.	..	..	...
Burma	Henzada	...	...	...	..	...	...	...	...
	Mandalay	.	...	..	...	...	...	...	
	Northern Shan States.	46,140	...	...	...	..	...	...	..
	Total	46,140	.	..	...	...	...	.	...
	Grand Total (Iron ore) for 1929	1,436,385	..	...	..	..	...	...	...
	Grand Total (Iron ore) for preceding year.	1,206,754	4	39	...	81	124	...	124
	Difference	+229,631	—4	—39	...	—81	—124	...	—124
									MANGANESE
Bihar and Orissa	Singhbhum	22,098	6	62	21	27	116	142	260
Bombay	Belgaum	8,666	..	..	.	...	...	.	...
	North Kanara	6,245	...	.	..	...	...	...	...
	Panch Mahals	56,326	3	25	2	5	35	...	35
	Total	71,237	3	25	2	5	35	...	35

DIX I—*contd.*

AND MINERALS—*contd.*

No. I—*contd.*

year 1929 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings								Surface.						
Males								Males						
Foremen and Mates	Miners.	Other skilled labour	Other unskilled labour	Total males	Females.	Total Males and Females	Total Underground and Open workings	Clerical and supervising staff	Skilled labour.	Unskilled labour.	Total Males	Females.	Total Males and Females.	Grand Total.
ORE														
153	2,858	331	502	3,844	1,947	5,791	5,791	146	369	931	1,446	882	2,328	8,119
			7	7	.	7	7	.	.	...	...	...	...	7
				..	..		..	7	5	44	56	...	56	56
2	..	5	215	222	1	223	223	12	4	294	310	63	373	596
2		5	222	229	1	230	230	19	9	338	366	63	429	659
155	2,858	336	724	4,073	1,948	6,021	6,021	165	378	1,269	1,812	945	2,757	8,778
131	2,109	194	975	3,409	1,593	5,002	5,126	209	505	1,777	2,491	530	3,021	8,147
+24	+749	+142	−251	+664	+355	+1,019	+895	−44	−127	−508	−679	+415	−264	+631
ORE														
30	271	48	56	405	281	686	945	26	66	201	293	434	727	1,673
11	241	6	3	261	144	405	405	2	..	..	2	...	2	407
12	230	8	114	364	225	622	622	14	4	101	119	37	156	
78	1,018	32		1,128	849	1,977	2,012	39	51	316	397	86	483	
101	1,489	46	147	1,753	1,221	3,004	3,039	46	35	417	[illegible]		641	

STATISTICS OF MINES

Table

Number of workers and output of minerals during

Province	District and Mineral field	Total Output	Average number of persons employed						
			Underground						
			Males					Females.	Total Males and Females
			Foremen and Mates	Miners	Other skilled labour.	Other unskilled labour	Total Males.		
									MANGANESE
		Tons							
Central Provinces	Balaghat	263,105	20	396	5	115	536	174	710
	Bhandara	156,525	..	...		.	.	.	.
	Chhindwara	29,814	4	39	24	5	72		72
	Nagpur	172,461	9	105	6	3	123	11	134
	Total	621,905	33	540	35	123	731	185	916
Madras	Bellary	10,575	..	.	...	.			...
	Kurnool	..	...	.	..	..	.	..	...
	Vizagapatam	24,533	..		..	...	..		..
	Total	35,068	...	..	..		.		...
	Grand Total (Manganese ore) for 1929	750,908	44	627	58	155	884	327	1,211
	Grand Total (Manganese ore) for preceding year.	716,626	44	690	48	206	988	207	1,195
	Difference	+34,282	..	—63	+10	—51	—104	+120	+16

I—*contd.*

AND MINERALS—*contd*

No. I—*contd.*

the year 1920 at mines under the Indian Mines Act—*contd.*

daily in and about the mines														
Open workings							Total Underground and Open workings	Surface						Grand Total.
Males					Females	Total Males and Females		Males				Females	Total Males and Females.	
Foremen and Mates.	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff.	Skilled labour	Unskilled labour	Total Males			
ORE—*contd.*														
170	3,139	71	238	3,618	3,276	6,894	7,604	102	83	677	862	727	1,589	9,193
123	1,428	81	102	1,735	1,554	3,289	3,289	33	32	201	266	185	451	3,740
13	109	11	6	139	70	209	281	8	29	98	135	67	222	503
145	2,614	78	142	2,979	2,628	5,607	5,741	55	85	601	741	456	1,197	6,938
451	7,290	241	489	8,471	7,528	15,999	16,915	198	229	1,577	2,004	1,435	3,459	20,374
13	36	11	35	95	47	142	142	16	17	30	63	24	87	229
...		..	9	9		9	9		...	...	...	...	...	9
22	703	7	15	747	341	1,088	1,088	8	37	142	157	3	190	1,278
35	739	18	59	851	388	1,239	1,239	24	54	172	250	27	277	1,516
617	9,789	353	731	11,310	9,415	20,925	22,139	294	404	2,367	3,065	2,039	5,104	27,243
684	10,760	322	676	12,442	10,789	23,231	24,426	303	409	2,655	3,367	1,8[illegible]2	5,169	[illegible]
—67	—971	+31	+75	—[illegible]	—1,371	—2,303	—2,287	—9	—5	—[illegible]	—3[illegible]2	+[illegible]	—65	—[illegible]

APPEN

STATISTICS OF MINES

Table

Number of workers and output of minerals, during the

Province.	District and Mineral field.	Total output.	Average number of persons employed — Underground. — Males. — Foremen and Mates	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.	Females.	Total Males and Females.
									LEAD
		Tons.							
Burma	Northern Shan States.	463,972*	119	2,500	260	2,049	4,928	...	4,928
	Southern Shan States.	719	19	171	25	7	222	...	222
	Grand Total (Lead ore), for 1929	464,691	138	2,671	285	2,056	5,150	..	5,150
	Grand Total (Lead ore) of preceding year.	443,654	141	2,673	264	1,448	4,526	...	4,526
	Difference	+21,037	—3	—2	+21	+608	+624	.	+624
									ANTIMONIAL
		Tons							
Burma	Northern Shan States.	1,200							Figures
	Total of preceding year	1,241	...	.	..	..	..	..	...
	Difference	—41	...	...	.	...	...	...	...

*79,033 tons of refined

DIX I—*contd.*

AND MINERALS—*contd.*

No. I—*contd.*

year 1920 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings							Total Underground and Open workings	Surface.						Grand Total.
Males					Females	Total Males and Females		Males				Females	Total Males and Females	
Foremen and Mates	Miners.	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff	Skilled labour.	Unskilled labour	Total Males			
ORE														
1			58	59	...	59	4,987	56	204	517	777		777	5,764
...				.	...		222	5	24	35	64	7	71	293
1		...	58	59	..	59	5,209	61	228	552	841	7	848	6,057
1	...		59	60	...	60	4,586	133	159	501	793	5	798	5,384
...		.	—1	—1	...	—1	+623	—72	+69	+51	+48	+2	+50	+673
LEAD.														
with those for Lead ore														
.		..			...	...	.	...	...	..	...	.	...	...
...				...	..	...	...	...	...	...	...	...	...	...

Lead extracted

APPEN

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total output	Average number of persons employed						
			Underground.						
			Males						
			Foremen and Mates	Miners	Other skilled labour.	Other unskilled labour	Total Males.	Females	Total Males and Females
									SIL
		Ounces							
Burma	Northern Shan States	7,230,517						Figures included	
	Total of preceding year	7,404,728	...	...	.	..	...	...	.
	Difference . .	−124,211			...	..	..	..	..
									GO
		Ounces							
Bihar and Orissa	Singhbhum . .	30	.	4	.	.	4	..	4
	Total of preceding year	7	..	4	...	2	6	...	6
	Difference .	+23	.	.	.	−2	−2	...	−2

DIX I—*contd.*

AND MINERALS—*contd.*

No. I—*contd.*

year 1929 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

	Open workings							Total Underground and Open workings	Surface						Grand Total.
	Males					Females	Total Males and Females		Males.				Females	Total Males and Females	
	Foremen and Mates	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff	Skilled labour.	Unskilled labour.	Total Males			
VER															
with those for Lead ore															
							..	...				...	...	...	.
							...		.	.	...	...		..	..
LD															
			..	...	..	..		1		..	6	6	2	8	12
	...	..		...		.	...	6		1	3	4	3	7	13
	...	...		...	. .		..	−2	...	−1	+3	+2	−1	+1	−1

APPEN

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and Mineral field.	Total Output	Average number of persons employed						
			Underground						
			Males.						
			Foremen and Mates	Miners	Other skilled labour.	Other unskilled labour	Total Males	Females.	Total Males and Females.
									TIN
		Tons.							
Burma	Amherst	20	1	3	10	1	15	...	15
	Mergui	1,184	1	8		14	23	...	23
	Tavoy	2,171	8	1,416	206	...	1,630	.	1,630
	Thaton	9	4	9	...	...	13	3	16
	Grand Total (Tin Ore) for 1929.	3,384	14	1,436	216	15	1,681	3	1,684
	Grand Total (Tin Ore) of preceding year	2,777	16	475	59	40	590	.	590
	Difference	+607	-2	+961	+157	-25	+1,091	+3	+1,094
									WOLFRAM
		Tons.							
Burma	Mergui	50	Figures included						
	Tavoy	1,011							
	Grand Total (Wolfram Ore) for 1929	1,061		...	...	...	...	Ditto	Ditto
	Grand Total (Wolfram Ore) for preceding year.	622	..	...	...	..	...	...	...
	Difference	+439	...	...	...	...	...	..	..
									CHROMITE
		Tons							
Baluchistan	Zhob	17,905	7	104	.	...	111		111
	Total	17,905	7	104	..		111	.	111

DIX I—*contd.*

AND MINERALS—*contd.*

No. I—*contd.*

year 1929 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings.							Total Underground and Open workings.	Surface						Grand Total.
Males.					Females	Total Males and Females		Males				Females	Total Males and Females.	
Foremen and Mates	Miners.	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff.	Skilled labour.	Unskilled labour.	Total Males.			
ORE.														
2	...	77	69	148	...	148	163	6	11		17	...	17	180
26	1,214	602	516	2,358	11	2,369	2,392	97	10	108	215	..	215	2,607
24	1,820	477	1,163	3,484	99	3,583	5,213	114	82	335	531	4	535	5,748
1	...	5	5	11	28	39	55	..	3	...	3	.	3	58
53	3,034	1,161	1,753	6,001	138	6,139	7,823	217	106	443	766	4	770	8,593
103	2,997	964	1,915	5,979	163	6,142	6,732	142	291	483	916	...	916	7,648
−50	+37	+197	−162	+22	−25	−3	+1,091	+75	−185	−40	−150	+4	−146	+945
ORE.														
with those for Tin			Ore											
Ditto	Ditto	Ditto	Ditto	...		.	.	...	...	...	...	...	...	...
.				...	...	.	.	..	...	..	...	...	.	...
.		...	.		...	...	...	...	...	...	...	.	...	...
ORE														
8	64	..	..	72	...	72	183	3	.	57	60	...	60	243
8	64		...	72	...	72	183	3		57	60	...	60	243

STATISTICS OF MINES

Table

Numbei of workers and output of minerals during the

Province.	District and Mineral field	Total Output.	Average number of persons employed						
			Underground						
			Males					Females.	Total Males and Females
			Foremen and Mates	Miners	Other skilled labour.	Other unskilled labour.	Total Males.		
								CHROMITE	
	Brought forward	17,905	7	104	...	..	111	...	111
Bihar and Orissa	Singhbhum .	Tons. 3,149	..	...	.	..		...	..
	Grand Total (Chromite Ore) for 1929	21,054	7	104	..	.	111	...	111
	Grand Total (Chromite Ore) of preceding year.	17,167	5	30	...	...	35	...	35
	Difference . .	+3,887	+2	+74	.		+76	...	+76
								COPPER	
Bihar and Orissa	Singhbhum . .	Tons 76,831	3	8	43	104	158	...	158
Burma . .	Henzada . .	..	.		...				...
	Grand Total (Copper Ore) for 1929	76,831	3	8	43	104	158	..	158
	Grand Total (Copper Ore) of preceding year	18,055	4	50	13	42	109	.	109
	Difference . .	+58,776	—1	—42	+30	+62	+49	..	+49

DIX I—*contd.*

AND MINERALS—*contd.*

No. I—*contd.*

year 1929 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings							Total Underground and Open workings	Surface						Grand Total.
Males					Females	Total Males and Females		Males				Females	Total Males and Females	
Foremen and Mates	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff	Skilled labour	Unskilled labour	Total Males.			
ORE *contd*														
8	64	.		72	..	72	181	3		57	60	..	60	241
29	196	52	37	314	310	624	624	12	18	..	30	25	55	679
37	260	52	37	386	310	696	807	15	18	57	90	25	115	922
26	210	28	32	296	225	521	556	15	52	6	73	18	91	647
+11	+50	+24	+5	+90	+85	+175	+251	.	−34	+51	+17	+7	+24	+275
ORE														
...							158	11	85	121	217	66	283	441
			7	7		7	7		..	.	...	...		7
.			7	7		7	165	11	85	121	217	66	283	448
1		8	24	33	.	33	142	15	201	212	428	88	516	658
−1	..	−8	−17	−26		−26	+23	−4	−116	−91	−211	−22	−233	−210

APPEN

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and Mineral field.	Total Output.	Average number of persons employed — Underground — Males — Foremen and Mates	Miners.	Other skilled labour.	Other unskilled labour.	Total Males	Females	Total Males and Females.
									COPPER
		Tons.							Figures included
Burma . .	Northern Shan States	11,303							
	Total of preceding year.	10,978	...	...	...	..	...	...	.
	Difference . .	+325	...	...	...	...	...	...	...
									NICKEL
		Tons.							Figures included
Burma . .	Northern Shan States	3,065							
	Total of preceding year.	2,899	...	...	...	...	...	..	...
	Difference . .	+166	...	...	...	.	...	...	..
									ZINC CON
		Tons.							Figures included
Burma . .	Northern Shan States	58,435							
	Total of preceding year	64,122	...	.	...	.	...	..	...
	Difference	- 5,687	..	.	..	.	...	...	...
									GE
		Carats.							
Burma . .	Katha { Rubies	37,640	...	...	...	...	...	...	.
	Katha { Sapphires	2,530							
	Katha { Spinles	3,480							

DIX I—*contd.*

AND MINERALS—*contd.*

No. I—*contd.*

year 1929 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

	Open workings								Surface.						
	Males					Females	Total Males and Females	Total Underground and Open workings	Males				Females.	Total Males and Females.	Grand Total.
	Foremen and Mates	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff	Skilled labour.	Unskilled labour	Total Males			
MATTE with those for lead ore															
	..				...		..	.	.		...	...	...	..	...
	...				.	...	...		.	.	..		...	...	...
SPEISS with those for lead ore															
			.			..		...		...	..	..	...	...	...
		..	...			.	..	...	..	...	..	...	...	...	...
CENTRATES with those for lead ore.															
	..	..		.	..	...	...	...	...	...	...	..	...	...	...
	...	.	...	.	...	...	...	...	...	...	...	...	...	...	..
MS	1	3	33	157	193	...	193	193	7	61	133	201	..	201	394

APPEN

STATISTICS OF MINES

Table

Number of workers and output of minerals, during the

Province	District and Mineral field.	Total Output	Average number of persons employed						
			Underground						
			Males					Females.	Total Males and Females
			Foremen and Mates	Miners.	Other skilled labour	Other unskilled labour	Total Males		
		Cwt							MI
Bihar and Orissa.	Gaya . .	7,328	67	787	297	217	1,368	169	1,537
	Hazaribagh . .	31,545	361	4,222	451	559	5,593	724	6,317
	Monghyr .	276	13	58	38	39	118	.	118
	Sonthal Parganas	10			.	.			...
	Total .	39,161	441	5,067	786	815	7,109	893	8,002
Madras .	Nellore . .	9,904	77	555	254	378	1,264	583	1,847
	Nilgiris . .	91	1	6	2	7	16	5	21
	Total .	9,995	78	561	256	385	1,280	588	1,868
Rajputana .	Ajmer-Merwara .	281	18	94	8	7	127	2	129
	Grand Total (Mica) for 1929	49,437	537	5,722	1,050	1,207	8,516	1,483	9,999
	Grand Total Mica of preceding year.	44,629	683	7,244	710	1,257	9,894	2,677	12,571
	Difference . .	+4,808	−146	−1,522	+340	−50	−1,378	−1,194	−2,572

IX I—*contd.*

ND MINERALS—*contd.*

o. I—*contd.*

ear 1929 at mines under the Indian Mines Act—*contd.*

aily in and about the mines															
Open workings								Surface.							
Males					Females	Total Males and Females	Total Underground and Open workings	Males				Females	Total Males and Females.	Grand Total.	
Foremen and Mates	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff	Skilled labour	Unskilled labour	Total Males				
CA															
39	211	132	281	696	202	898	2,135	89	52	143	284	12	296	2,731	
66	962	21	51	1,100	139	1,245	7,562	203	425	443	1,074	397	1,471	9,033	
3	19	2	23	47	11	58	206	16	5	11	35	20	55	261	
2	4	3	2	11	3	14	14	1	1	1	3	2	5	19	
110	1,229	161	360	1,860	355	2,215	10,217	309	486	601	1,396	431	1,827	12,044	
39	229	161	179	608	602	1,210	3,057	93	223	248	566	521	1,087	4,144	
			—	.			21	1	4	5	10	1	11	32	
39	229	161	179	608	602	1,210	3,078	97	226	253	576	522	1,098	4,176	
10	84	15		109	48	157	286	15	33		48	1	49	335	
159	1,542	337	589	2,577	1,005	3,582	13,581	421	745	854	2,020	954	2,974	16,555	
160	1,775	284	348	2,567	802	3,368	15,939	398	547	708	1,643	635	2,298	18,237	
−1	−233	+53	+191	+10	+204	+214	−2,358	+23	+198	+146	+377	+319	+676	−1,682	

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STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output.	Average number of persons employed — Underground — Males. — Foremen and Mates	Miners	Other skilled labour	Other unskilled labour	Total Males	Females.	Total Males and Females.
									SA
Punjab .	Jhelum . .	Tons 112,616	35	448	37	55	575	271	846
	Mianwali . .	16,193	...	21	55	...	76	...	76
	Shahpur . .	19,687	1	76	13	...	90	62	152
	Grand Total (Salt) for 1929.	148,496	36	545	105	55	741	333	1,074
	Grand Total Salt of preceding year.	145,543	36	391	109	84	610	361	971
	Difference . .	+2,953	+10	+154	—4	—29	+131	—28	+103
									MAGNE
Madras . .	Salem . . .	Tons. 22,134	...		...	...	...	...	...
	Total of preceding year.	22,542		...	...	...	...	..	..
	Difference . .	—408	...	...	...	...	...	...	...
									BAU
Bombay . .	Kaira .	Tons 9,044	..	...	...	.	...	...	...
	Total of preceding year.	11,167		...	...	..	...	...	...
	Difference . .	—2,123	...	..	...	.	..	...	..

DIX I—*contd.*

AND MINERALS—*contd.*

No. I—*contd.*

year 1929 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

Open workings.							Total Underground and Open workings.	Surface.							Grand Total.
Males					Females.	Total Males and Females.		Males.				Females.	Total Males and Females.		
Foremen and Mates	Miners	Other skilled labour	Other unskilled labour	Total Males.				Clerical and supervising staff	Skilled labour.	Unskilled labour	Total Males.				
LT															
1	9	..	...	10		10	856	1	48	352	401	1	402	1,258
					.	.	76	...	..	74	74	..	74	150
..			..		...	..	132	.	8	89	47	...	47	199
1	9			10		10	1,084	1	56	465	522	1	523	1,607
1	15			16	.	16	987	1	109	430	540	1	541	1,528
...	—6	..	...	—6	..	—6	+97	..	—53	+35	—18	...	—18	+79
SITE															
55	490	...	226	771	506	1,277	1,277	15	115	5	135	22	157	1,434
46	512	...	314	872	600	1,472	1,472	14	121	16	151	12	163	1,635
+9	—22		—88	—101	—94	—195	—195	+1	—6	—11	—16	+10	—6	—201
XITE															
5	97	3	...	105	76	181	181	...	2	10	12	2	14	195
4	97	2		103	79	182	182	1	3	21	25	5	30	212
+1	...	+1	.	+2	—3	—1	—1	—1	—1	—11	—13	—3	—16	—17

APPEN

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and Mineral field	Total Output.	Average number of persons employed — Underground. — Males. — Foremen and Mates	Miners.	Other skilled labour.	Other unskilled labour	Total Males	Females	Total Males and Females
		Tons							ST EA
Bihar and Orissa	Singhbhum . .	349		11	49	15	75	6	81
Central Provinces	Jubbulpore .	1,541	2	..	6	8	16	...	16
Madras .	Nellore . . .	17	.	..	.	.	..	...	.
United Provinces.	Hamirpur . .	412		56	...	245	301	...	301
	Grand Total (Steatite) for 1929	2,319	2	67	55	268	392	6	398
	Grand Total of preceding year.	1,803	4	128	18	239	389	69	458
	Difference .	+516	−2	−61	+37	+29	+3	−63	−60
									SLA
Bihar and Orissa	Monghyr . .	Tons 43,099	...	..	...	...	.	...	.

DIX I—*contd.*

AND MINERALS—*contd.*

No. I—*contd.*

year 1920 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings							Total Underground and Open workings	Surface						Grand Total.
Males					Females	Total Males and Females		Males				Females	Total Males and Females	
Foremen and Mates.	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff	Skilled labour	Unskilled labour	Total Males.			
TITE														
11	48		3	62	74	136	217	13	10	4	27	...	27	244
5	23	20	44	92	70	162	178	2	2	8	12	36	48	22[illegible]
		15		15	...	15	15	1	.	.	1	..	1	16
...		78	99	177		177	478	.	25	.	25	...	25	503
16	71	1[illegible]3	116	316	11[illegible]	490	888	16	27	12	65	36	101	9[illegible]9
5	19	111	96	231	64	295	753	8	6	19	33	4	37	790
+11	+52	+2	+50	+115	+50	+195	+135	+8	+31	−7	+32	+32	+64	+199
TR. 12	65	78	68	223	50	273	273	9	2	2	13		13	286

APPEN

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field.	Total Output	Average number of persons employed						
			Underground.						
			Males.					Females.	Total Males and Females.
			Foremen and Mates	Miners	Other skilled labour.	Other unskilled labour.	Total Males.		
		Tons							SLA
Punjab	Gurgaon	813	...	15	7	...	22	...	22
	Kangra	4,457	4	...	10	22	36	...	36
	Total	5,270	4	15	17	22	58	...	58
	Grand Total (Slate) for 1929.	53,369	4	15	17	22	58	...	58
	Grand Total of preceding year.	7,734	1	23	11	8	43	...	43
	Difference	+45,635	+3	−8	+6	+14	+15	...	+15
		Tons							LIME
Bihar and Orissa	Shahabad	269,388	...	...	...	...	...	...	...
Bombay	Sukkur	221,850	...	...	...	...	...	...	...
Burma	Amherst	30,910	...	...	...	...	...	...	...
	Northern Shan States.	43,217	...	...	...	...	...	...	...
	Total	74,127	...	...	...	...	...	...	...
Central Provinces.	Bilaspur	32,298	...	...	...	...	...	...	...
	Jubbulpore	341,244	...	...	...	...	...	...	...
	Raipur	4,575	...	...	...	...	...	...	...
	Yeotmal	8,133	...	...	...	...	...	...	...
	Total	386,250	...	...	...	...	...	...	...

DIX I—*contd.*

AND MINERALS—*contd*

No. I—*contd.*

year 1929 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

Open workings							Total Underground and Open workings	Surface.						Grand Total.
Males					Females	Total Males and Females		Males				Females.	Total Males and Females	
Foremen and Mates	Miners	Other killed labour	Other unskilled labour	Total Males				Clerical and supervising staff.	Skilled labour	Unskilled labour	Total Males			
TE—*contd*														
2	20	25	14	61		61	63	1	...	3	4	..	4	67
36	60	70	14	180	.	180	216	.		..	..	...	.	216
38	80	95	28	241		241	299	1	...	3	4	...	4	303
50	145	173	96	461	50	514	572	10	2	5	17	..	17	589
23	183	153	88	447	39	486	529	2	1	7	10	..	10	539
+ 27	−38	+20	+8	+17	+11	+28	+43	+8	+1	−2	+7	..	+7	+50
STONE														
90	303	60	371	823	194	1 017	1,017	79	86	156	321	24	345	1,362
4	100	11	345	460		460	460	1	2	4	7	..	7	467
5	80	24	21	133	43	175	175	1	2	2	5	...	5	180
2	.	2	198	202		202	202	...	.	...	..	...	...	202
7	80	26	222	335	43	377	377	1	2	2	5	...	5	382
12	212			224	103	327	327	9	18	68	95	30	125	452
71	539	68	482	1,160	1,955	3,115	3,115	23	65	170	261	377	638	3,753
	135		...	135	88	223	223	8	...	43	51	25	76	299
4	...	..	36	40	14	54	54	1	...	9	10	...	10	64
87	886	68	518	1,559	2,160	3,719	3,719	41	83	290	417	432	849	4,553

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field	Total Output.	Average number of persons employed						
			Underground.						
			Males					Females.	Total Males and Females
			Foremen and Mates	Miners.	*Other skilled labour*	Other unskilled labour.	Total Males.		
									LIME
Punjab	Attock	Tons 196 567	...	...	...	...	...	...	...
	Jhelum	74,248	...	...	...	...	...	...	...
	Mianwali	267	...	...	...	...	...	...	...
	Rawalpindi	88,000	...	...	...	...	...	...	...
	Total	359,082	...	...	...	...	...	...	...
	Grand Total (Limestone) for 1929	1,313,647	...	...	...	...	...	...	...
	Grand Total of preceding year	1,404,578	...	3	...	3	6	1	7
	Difference	—90,931	...	—3	...	—3	—6	—1	—7
					STONE (CHIEFLY IGNEOUS				
Bengal	Birbhum	Tons 100,206	...	...	...	...	...	...	...
Bihar and Orissa.	Sambalpur	4,480	...	...	...	...	...	...	...
	Sonthal Parganas	246,475	...	...	...	...	...	...	...
	Shahabad	8 030	...	...	...	...	...	...	...
	Singhbhum	84,615	...	...	...	...	...	...	...
	Gaya	68,467	...	...	...	...	...	...	...
	Total	412,067	...	...	...	...	...	...	...
Bombay	Bombay	67,960	...	...	...	...	...	...	...
	Bombay Suburban	39,000	...	...	...	...	...	...	...
	Hyderabad	10,126	...	...	...	...	...	...	...
	Karachi	46,685	...	...	...	...	...	...	...
	Sukkur	103,914	...	...	...	...	...	...	...
	Surat	31,170	...	...	...	...	...	...	...
	Thana	24,498	...	...	...	...	...	...	...
	Total	623,441	...	...	...	...	...	...	...

DIX I—*contd.*

AND MINERALS—*contd.*

No. I—*contd.*

year 1929 at mines undei the Indian Mines Act—*contd.*

daily (in and about the mines

Open workings: Males: Foremen and Mates	Open workings: Males: Miners	Open workings: Males: Other skilled labour	Open workings: Males: Other unskilled labour	Open workings: Males: Total Males	Open workings: Females	Open workings: Total Males and Females	Total Underground and Open workings	Surface: Males: Clerical and supervising staff	Surface: Males: Skilled labour	Surface: Males: Unskilled labour	Surface: Males: Total Males	Surface: Females	Surface: Total Males and Females	Grand Total
STONE—*contd*														
51	149		538	708	.	708	705	18	25	422	465	9	474	1,182
6	90			96		96	96	4	4	220	228	.	228	324
Figures included with those for Stone														
7	88			95		95	95	2		78	80	...	80	175
64	297		538	899		899	8	24	29	720	773	9	782	1,681
252	1,665	165	1,994	4,076	2,393	6,472	6,472	149	202	1,172	1,523	465	1,988	8,460
259	2,085	295	1,474	4,113	2,842	6,955	6,962	117	266	1,966	2,349	505	2,854	9,816
—7	—420	—130	+520	—37	—446	—483	—490	+32	—64	—794	—825	—40	—866	—1,356
ROCK AND QUARTZITE														
1	190	14	5	210	6	216	216	10	36	324	370	31	401	617
			10	40	60	100	100						...	100
20	193	365	514	1,092	167	1,259	1,259	66	157	420	643	186	829	2,088
1			66	67	12	81	81		...	..		..		81
25	237		107	389	425	814	814	5	...	10	15	6	21	835
33	410			413	205	648	648		...	..	.	.		645
81	860	365	727	2,033	869	2,902	2,902	71	157	430	658	192	850	3,752
15	10	14	172	211	67	278	278	10	19	110	139	46	185	463
.	.	3	72	75	4	79	79	8	45	80	128	..	128	207
		...	124	124		124	124	..		.		..	...	124
18			167	185	10	195	195	1		10	11	.	11	206
22	183	29	851	1,085	121	1,206	1,206	[illegible]	2	[illegible]	[illegible]	60	143	[illegible]
4	19	76	152	251	161	412	412	6	..	..	6	.	6	415
4	30	...		34	70	104	104	3	5	10	18	10	28	132
73	262	172	1,518	1,965	433	[illegible]	[illegible]	51	71	290	[illegible]	116	[illegible]	[illegible]

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STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and Mineral field.	Total Output.	Average number of persons employed						
			Underground.						
			Males.						
			Foremen and Mates	Miners.	Other skilled labour.	Other unskilled labour.	Total Males	Females	Total Males and Females.
		Tons			STONE (CHIEFLY IGNEOUS				
Burma	Lower Chindwin	33,620	...	..	...	...	...	..	...
	Mergui	1,587	...	...	...	..	...	...	...
	Tavoy	8,174	.	...	...	...	...	...	..
	Thaton	387,709	...	...	...	...	..	..	...
	Toungoo	70,489			..	...	.	...	...
	Total	501,579	.	...	...			..	...
Central Provinces.	Chhindwara	30	...	...	..	...	..	.	...
Delhi	Delhi	37,500	...	...	..	...	.	...	...
Punjab	Jhelum	108,863	...	...	...	...	..	...	...
	Mianwali	80,222	...	...	...	...	..	.	..
	Rawalpindi	112,969	.	...	...	...	...	.	...
	Shahpur	25,219	...	...	...	...	.	...	...
	Sheikhupura	25,001	..	...	...	..	...	..	...
	Total	352,274	...	..	...	...	...	...	.

DIX I—*contd.*

AND MINERALS—*contd.*

No. 1—*contd.*

year 1928 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings							Total Underground and Open workings.	Surface						Grand Total.
Males					Females.	Total Males and Females		Males				Females.	Total Males and Females.	
Foremen and Mates	Miners	Other skilled labour	Other unskilled labour	Total Males.				Clerical and supervising staff	Skilled labour.	Unskilled labour.	Total Males.			
ROCK AND QUARTZITE)—*contd.*														
...	..	.	349	349	.	349	349	39	..	...	39	...	39	388
1		4	25	30	10	40	40	.	...	..	...	...	...	40
.			99	99		99	99	..	...	..	.	...	...	99
54	840	393	353	1,640	40	1,680	1,680	34	56	105	195	...	195	1,875
11	163	18	116	308	248	556	556	2	6	3	11	...	11	567
66	1,003	415	942	2,426	298	2,724	2,724	75	62	106	245	...	245	2,969
1	...	3		4	6	10	10	...		2	2	...	2	12
2	26	..		28		28	28	2	...	50	52	10	62	90
12	66	1	302	351	23	401	401	2	2	14	18	...	18	422
10			170	180	20	200	200	...	..	...	.	...		200
12	82	...		94	.	94	94	6	4	250	262	...	262	356
5	..	1	60	66	...	66	66	...	.	...	..	...	...	66
6	60	1	81	148	60	208	208	5	21	6	32	...	33	241
45	208	3	613	869	103	972	972	15	27	270	312	...	312	1,284

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STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and Mineral field	Total Output	Average number of persons employed — Underground — Males — Foremen and Mates	Miners.	Other skilled labour.	Other unskilled labour	Total Males.	Females	Total Males and Females.
						STONE (CHIEFLY IGNE-			
United Provinces	Allahabad . .	Tons 154,558			.			..	--
	Banda . .	57,523	.	.	..		...	...	.
	Jhansi .	15,070	.		..	...	...		
	Saharanpur .	53,088	...	...			...	..	..
	Total .	310,239					.	...	
	Grand Total (Stone) for 1929	2,337,336	.			.	.	.	...
	Grand Total of preceding year	1,714,141						.	.
	Difference . .	+623,195	..	..	...	..	...	.	...
									SAND
Bihar and Orissa.	Shahabad . .	Tons 22,664	.		..	..			
Burma . .	Bassein . .	1,451	..		...	...	...		.
Central Provinces.	Jubbulpore . .	13,900	...		.	..		..	...
United Provinces	Allahabad . .	37,702	.	..	..	.	...	...	...
	Banda . .	2 696	.	...	...	.	..	...	..
	Total .	40,398	...	...		.	..	...	
	Grand Total (Sandstone), for 1929	78,413	..	...	...	...	...	..	
	Grand Total for preceding year	71,860	...	...	...	.	..	..	..
	Difference . .	+6,553	...	..		..	...	.	...

IX I—*contd.*

ND MINERALS—*contd.*

o. 1—*contd.*

ear 1929 at mines under the Indian Mines Act—*contd.*

laily in and abou' the mines

Open workings							Total Underground and Open workings.	Surface.						Grand Total.
Males					Females	Total Males and Females		Males.				Females	Total Males and Females.	
Foremen and Mates	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff.	Skilled labour	Unskilled labour	Total Males.			
OUSROCK AND QUARTZITE—*contd*														
30	391	82	703	1,206	643	1,849	1,849	8	61		69		69	1,918
21	5	9	266	301	254	555	555	7	16	78	101		101	656
19	411	63	38	851	113	964	964	12	3	169	184	...	184	1,148
8	.		198	204	48	252	252	3	1	164	168	..	168	420
76	807	174	1,205	2,262	1,358	3,620	3,620	30	81	411	522	..	522	4,142
345	3,356	1,106	5 010	9,817	3,053	12,870	12,870	254	434	1,855	2,543	349	2,892	15,762
190	4,120	1,372	2,439	8,121	1,675	9 796	9,796	194	724	1,510	2,428	500	2,928	12,724
+155	−764	−266	+2,571	+1,696	+1,378	+3,074	+3,074	+60	−290	+345	+115	−151	−36	+3,038
STONE														
4	21	66	91	182	40	222	222	...		.	.	...	...	222
			46	46		46	46	.	..		..	.	...	46
3	53		16	72	103	175	175	1	...	..	1	..	1	176
7	89	32	215	343	205	548	548	4	14	10	28	5	33	581
2	40	13	21	76	19	95	95	3	2	4	9	.	9	104
9	129	45	256	419	224	643	643	7	16	14	37	5	42	685
16	203	111	389	719	367	1,086	1,086	18	16	14	38	5	43	1,129
17	169	73	198	397	141	538	538	5	107	5	117	...	117	655
−1	+34	+38	+191	+322	+226	+548	+548	+3	−91	+9	−79	+5	−74	+474

APPEN

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and mineral field	Total Output.	Average number of persons employed						
			Underground						
			Males						
			Foremen and Mates	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.	Females.	Total Males and Females.
									LATE
Burma .	Thaton . . .	74,741	..	...	.	..	...	..	...
	Toungoo . .	590	..	.	.	..	...		...
	Total .	75,331	..	.	..			...	...
Central Provinces.	Jubbulpore .	2,738	.	.	..		.	...	.
	Grand Total (Laterite), for 1929.	78,069	.	...	...	.		...	.
	Grand Total of preceding year.	58,996	..	..	...		.	...	...
	Difference . .	+ 19,073	..		.	...	.	...	..
									GRA
Bihar and Orissa.	Singhbhum . .	6,994	..	...	...	..	...	Figur es	inclu-
	Total of preceding year.	16,295	...	...	...	...	...	...	...
	Difference .	—9,301	...	...	...	...	...	...	.

DIX I—*contd.*

AND MINERALS—*contd.*

No. 1—*contd.*

year 1929 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings							Total Underground and Open workings	Surface.						Grand Total.
Males					Females	Total Males and Females		Males.				Females.	Total Males and Females.	
Foremen and Mates	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff	Skilled labour.	Unskilled labour	Total Males.			
RITE														
3	264	12	6	285	.	285	285	9	...	...	9	...	9	294
6			22	28		28	28	..		...	..		...	28
9	264	12	28	313		313	313	9	..	...	9	...	9	322
5	50		41	96	41	137	137	2	..	4	6	.	6	143
14	314	12	69	409	41	450	450	11	..	4	15	...	15	465
9	240	12	77	338	12	350	350	11	3	...	14	...	14	364
+5	+74		—8	+71	+29	+100	+100	...	—3	+4	+1	...	+1	+101
VEL														
ded with those for Stone														
	.	...		...	..	.	...	...	...	...	...	...	...	...
...	...	...		...	...	...	...	...	...	...	...	...	...	...

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STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and mineral field	Total Output	Average number of persons employed						
			Underground.						
			Males					Females	Total Males and Females.
			Foremen and Mates.	Miners.	Other skilled labour	Other unskilled labour	Total Males.		
									MU
		Tons							
Bihar and Orissa.	Singhbhum	2,883	.			Figures included with those for			
Bombay	Bombay Suburban	1,124,635	.	..		..		..	..
	Thana	8,216				Figures included with those for			
	Total	1,132,851			..	...	..	...	...
	Grand Total (Murum) for 1929.	1,135,734	..	...			...	..	...
	Grand Total of preceding year.	1,294,087	...	...	...	...	...	.	...
	Difference	—158,353	.	...	...	...	..	.	
									FIRE
Bengal	Burdwan	12,343	...	...	...	...	...	...	..
Bihar and Orissa	Bhagalpore	49	...	3		.	3	...	3
	Manbhum	6,015	.	..	.	...	...	...	..
	Palamau	7,324	...	...	..	...	..	..	.
	Sambalpur	3,836	...	...	..	...	..	...	...
	Total	17,224	...	3	...		3	.	3

DIX I—*contd.*

AND MINERALS—*contd.*

No. 1—*contd.*

year 1929 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings							Total Underground and Open workings	Surface						Grand Total.
Males					Females	Total Males and Females		Males				Females.	Total Males and Females	
Foremen and Mates	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff	Skilled labour	Unskilled labour	Total Males			
RUM														
Stone														
50	4	60	864	978	468	1,446	1,446	5	48	11	64	...	64	1,510
Stone														
50	4	60	864	978	468	1,446	1,446	5	45	11	64	...	64	1510
.						...		...	..	...	...	.	..	...
	.				.			...	.	..	..	.	—	—
						.	...	...	..	...	..	...	—	...
CLAY.														
2	105	21		128	23	151	151	3	.	8	11	16	27	178
	1	.	1	2	2	4	7	.	.	...	..	...	...	7
3	36		61	100	57	157	157	2	1	42	45	24	69	226
1	17	3		21	17	38	38	1	13	13	27	7	34	72
2	26	..		28	10	38	38	1	1	46	48	6	54	92
6	80	3	62	151	86	237	240	4	15	101	120	27	147	387

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STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and mineral field	Total Output.	Average number of persons employed						
			Underground.						
			Males					Females	Total Males and Females.
			Foremen and Mates	Miners	Other skilled labour	Other unskilled labour.	Total Males		
									FIRE
Central Provinces.	Jubbulpore . .	Tons 43,938	...	...	9	.	9	9	18
	Grand Total (Fire Clay) for 1929	73,505	..	3	9	...	12	9	21
	Grand Total of preceding year	82,777	...	4	..		4		4
	Difference .	—9,272	...	—1	+9	.	+8	+9	+17
									CHINA
Bihar and Orissa.	Bhagalpur . .	4,082	3	6	..	7	16	6	22
	Singhbhum .	5,336	..	...		...	..	.	...
	Total .	9,418	3	6		7	16	6	22
Delhi . .	Delhi . . .	2,310	...	8	.	...	8		8
	Grand Total (China Clay) for 1929.	11,728	3	14	...	7	24	6	30
	Grand Total of preceding year.	7,186	2	8	..	4	14	13	27
	Difference	+4,542	—1	+6	...	+3	+10	—7	+3

DIX I—*contd.*

AND MINERALS—*contd.*

No. 1—*contd.*

year 1929 at mines under the Indian Mines Act—*contd.*

daily in and about the mines.

Open workings								Surface						
Males								Males.						
Foremen and Mates	Miners	Other skilled labour	Other unskilled labour	Total Males	Females	Total Males and Females	Total Underground and Open workings	Clerical and supervising staff	Skilled labour	Unskilled labour.	Total Males	Females	Total Males and Females.	Grand Total.
CLAY—*contd*														
8	13	8	117	145	211	386	401	1	1	47	49	16	65	469
16	197	32	179	424	350	774	795	8	16	156	184	69	249	1,044
18	21[illegible]	32	221	453	533	1,016	1,020	4	24	169	197	64	261	1,281
−2	15		−43	−59	−183	−243	−235	+4	−8	−13	−17	+5	−12	−237
CLAY														
2	10			12	19	31	33	5	6	17	28	3	31	64
16	59	14	126	215	212	427	427	17	15	64	96	130	226	653
18	69	14	126	227	231	458	460	22	21	81	124	153	257	737
						.	8	1	8	.	9	...	9	17
18	69	14	126	227	231	458	468	23	29	81	133	133	266	734
17	78		85	180	189	369	393	23	18	91	132	121	253	649
+1	−9	+14	+41	+47	+42	+89	+92	—	+11	−1	+1	+12	+13	+105

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STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and mineral field	Total Output.	Average number of persons employed — Underground. — Males. — Foremen and Males	Miners	Other skilled labour.	Other unskilled labour.	Total Males.	Females.	Total Males and Females.
		Tons							CL
Bengal . .	Burdwan . .	15,221		.	.		...	...	...
Central Provinces	Jubbulpore .	70,231		..	...	...	. .	.	...
Punjab	Attock	39,079				Figures included with those			
	Grand Total (Clay) for 1929	124,531			.	. .	..	...	
	Grand Total of preceding year	28,836				.	...	..	..
	Difference	+95,695		..	...	...	.		...
		Tons							GRA
Rajputana .	Ajmer-Merwara	39	1	4	...	.	5		5
	Total of preceding year.	..	.		...	...	...		...
	Defference . .	+39	+1	+4	...	.	+5		+5
									BARY
Madras .	Kurnool	802	...	10	4	8	22		22
	Total of preceding year	620	1	32	.	..	33	.	33
	Difference . .	+182	-1	-22	+4	+8	-11	...	-11

DIX I—*contd.*

AND MINERALS—*contd*

No. 1—*contd.*

year 1929 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings							Total Underground and Open workings	Surface.						Grand Total.
Males					Females	Total Males and Females		Males				Females.	Total Males and Females	
Foremen and Mates	Miners	Other Skilled labour	Other unskilled labour	Total Males.				Clerical and supervising staff	Skilled labour.	Unskilled labour	Total Males.			
AY														
	36			36	35	71	71	.	...	8	8	...	8	79
3	14	8		25	31	56	56	2	..	...	2		2	58
for Limestone														
3	50	8	.	61	66	127	127	2	.	8	10	..	10	137
3	19	18	6	46	59	105	105	10	...		10	..	10	115
	+31	—10	—6	+15	+7	+22	+22	—8		+8	...	..	...	+22
PHITE.														
...	2	.		2		2	7		..	2	2	...	2	9
		.				.		..	...	...	...	...	..	—
..	+2	...		+2		+2	+7	..	..	+2	+2	...	+2	[illegible]
TES.														
	20	16	18	54		54	76	..	4	7	11	...	11	87
1	8	16	.	25		25	58	5	21	...	26	...	26	84
—1	+12	...	+18	+29		+29	+18	—5	—17	+7	—15	..	—15	+3

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STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and Mineral field	Total Output	Average number of persons employed — Underground. — Males. — Foremen and Mates.	Miners	Other skilled labour	Other unskilled labour.	Total Males	Females.	Total Males and Females.
									APA
Bihar and Orissa	Singhbhum	Tons *Nil*	...	...	...	...	...	...	...
Madras	Trichinopoly	22	...	...	...		...	...	
	Grand Total (Apatite) for 1929.	22	...	...	...	...	...	...	...
	Total of preceding year.	805	...	...	...	...	...	...	...
	Difference	—783		...		...		...	...
									ASBES
Madras	Cuddapah	Cwt 1,768	3	47	...	...	50	41	91
	Total of preceding year.	170	...	...	...	34	34	12	46
	Difference	+1,598	+ 3	+47		—34	+16	+29	+45
									OCH
Central Provinces	Chanda	Tons 82	1	2	...	...	3	1	4
	Jubbulpore	1,103	...	...	...	...	...	...	...
	Total	...	...	...	...	...	...	...	...
	Grand Total (Ochre) for 1929.	1,185	1	2	...	...	3	1	4
	Grand Total of preceding year.	1,195	2	21	...	...	23	37	60
	Difference	—10	—1	—19	...		—20	—36	—56
									FULLER'S
Central Provinces	Jubbulpore	63	...	...	...	Figures included with those for			
	Total of preceding year	76	...	...	...	...		...	...
	Difference	—13	...	...	...	...	...	...	...

DIX I—*contd.*

AND MINERALS—*contd.*

No. 1—*contd.*

year 1929 at mines under the Indian Mines Act—*contd.*

daily in and about the mines

Open workings								Surface						
Males.					Females	Total Males and Females	Total Underground and Open workings.	Males				Females.	Total Males and Females.	Grand Total.
Foremen and Mates	Miners	Other skilled labour	Other unskilled labour	Total Males				Clerical and supervising staff	Skilled labour	Unskilled labour.	Total Males			
TITE														
...						...		1	..	16	17	4	21	21
..			2	2	6	8	8	..	...	..		.		8
...	.		2	2	6	8	8	1	.	16	17	4	21	29
1	14			15		15	15	1	.	6	7	12	19	34
—1	—14	...	+2	—13	+6	—7	—7	..	...	+10	+10	—8	+2	—31
TOS.														
..	.	...		..	...	...	91	6	6	23	35	31	66	157
..	..	..		..	.	.	46	6	9	159	174	52	226	272
..	...	..		..	..	...	+45	...	—3	—136	—139	—21	—160	—115
RE.														
...	2	..		2	1	3	7	...	7	...	7	...	7	14
3	80			83	150	233	233	1	.	95	96	...	96	329
...	...	...	...	..	...	...	...	...	...	..	...	...	...	...
3	82		...	85	151	236	240	1	7	95	103	...	103	343
3	153		..	156	151	307	367	1	..	100	101	...	101	468
	—71		..	—71	..	—71	—127	...	+7	—5	+2	...	+2	—125
EARTH. Limestone														
...	..		..	...	...	...	...	.	...	.	...	...	.	—
	...	.	...	...	...	...	...		...	.	...	...	..	..

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STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province.	District and mineral field	Total Output.	Average number of persons employed						
			Underground.						
			Males					Females.	Total Males and Females
			Foremen and Mates	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.		
		Tons							KYA
Bihar and Orissa.	Singhbhum . .	3,616	1	4	18	...	23	..	23
	Total of preceding year	345	...	...	..	Figures included with those for			
	Difference . .	+3,271	..	.	.	.	.	..	.
									CORUN
Madras , .	Madura . . .		...	..	.	...	...	...	...
	Salem . . .	34		...	...	...	...	...	..
	Grand Total (Corundum) for 1929.	34	...	.	.	...	...	...	...
	Total of preceding year	21	..	...	...	...	...	...	...
	Difference .	+13	...	...	...	..	...	...	...
									GYP
Madras . .	Trichinopoly . .	23	.	...	.	...	Figures included with		
Panjab . .	Jhelum . . .	6,063	...	...	...		Figures included with		
	Grand Total (Gypsum) for 1929.	6,086	...	..		...	...		...
	Total of preceding year.	7,283	..	.	..	...		..	..
	Difference . .	—1,197	...	...	..	...	...	...	...

DIX I—*contd.*

AND MINERALS—*contd.*

No. 1—*contd.*

year 1929 at mines under the Indian Mines Act—*contd*

daily in and about the mines.

	Open workings								Surface.						
	Males								Males.						
	Foremen and Mates	Miners.	Other skilled labour	Other unskilled labour	Total Males	Females.	Total Males and Females	Total Underground and Open workings.	Clerical and supervising staff.	Skilled labour	Unskilled labour	Total Males.	Females.	Total Males and Females	Grand Total.
NITE															
	1	25	2	21	49	7	53	79	5	44	95	144	28	172	251
Stone					..	..	.	...	.	..	...	...	...	...	...
				..			...	..	...	...	.	...	...	...	...
DUM															
	...			5	5	9	14	14	...	.	.	...	...	...	14
	3	14	...	9	26	43	69	69	1	...	...	1	..	1	70
	3	14	.	14	31	52	83	83	1	...	..	1	...	1	84
	2	9		.	11		11	11	...	1	..	1	19	20	31
	+1	+5	.	+14	+20	+52	+72	+72	+1	—1	...	...	—19	—19	+53
SUM.															
those for Apatite															
those for salt															
	.	..		.	..	...	...	...	...	.	...	...	...	...	...
	...	...	..	...		...	...	..	...	...	...	...	...	...	...

STATISTICS OF MINES

Table

Number of workers and output of minerals during the

Province	District and mineral field.	Total Output	Average number of persons employed						
			Underground						
			Males.						
			Foremen and Mates.	Miners.	Other skilled labour.	Other unskilled labour.	Total Males.	Females.	Total Males and Females
									BER
Rajputana .	Ajmer Merwara .	*Nil*	...	...	.	...	.	...	..
	Total of preceding year.	*Nil*	..	..	...	..	.	.	...
	Difference .	...	..	...	...	...	..	...	...
									BIS
		lbs							
Burma . .	Tavoy	88		..			Figures included with those		
	Total of preceding year.	—62	...	..	...	..	..	..	...
	Difference . .	+6	...	...	...	..	...	...	...
	Grand Total (Metalliferous Mines) for 19.9	...	794	11,283	1,860	3,897	17,834	2,209	20,043
	Grand Total of preceding year	...	933	11,815	1,232	3,448	17,428	,377	20,805
	Difference . .	..	—139	—532	+628	+449	+406	—1,168	—762
	Grand Total (all Minerals), for 1929	...	...	...	..	...	92,856	24,089	116,945
	Grand Total of preceding year	.	...	...	..	...	86,155	31,785	117,940
	Difference . .		...	...	..	..	—6,701	—7,696	—995

DIX I—*contd.*

AND MINERALS—*concld.*

No. 1—*concld.*

year 1929 at mines under the Indian Mines Act—*concld.*

daily in and about the mines

	Open workings								Surface						
	Males								Males						
	Foremen and Mates	Miners	Other skilled labour	Other unskilled labour	Total Males	Females	Total Males and Females	Total Underground and Open workings	Clerical and supervising staff	Skilled labour	Unskilled labour	Total Males	Females.	Total Males and Females.	Grand Total.
YL			6		6		6	6	..	.	..	.		...	6
	...	...	10		10	.	10	10	..	..		..	. .	...	10
			—4		—4	.	—4	—4	.	...	..	...		.	—4
MUTH. for Tin															
		...		.			.	..	.				.	..	...
		...					..		.	..	.		...	.	...
	1,871	24,299	4,092	13,150	43,412	20,783	64,225	84,268	1,707	3,046	9,535	14,588	5,157	19,775	104,043
	1,751	25,758	3,918	10,105	41,502	20,431	61,996	82,801	1,636	3,703	10,994	16,333	4,398	20,731	1[illegible]
	+120	—1,489	+174	+3,075	+1,850	+319	+2,229	+1,467	+71	—657	—1,159	—1,745	+759	—956	+211
	.				54,235	28,728	82,963	190,905	...	.	. .	51,954	17,839	69,793	260,701
		.			51,005	28,453	79,458	187,395	..	..	.	52,420	17,847	70,273	257,671
	..	..	..	.	+3,230	+275	+3,505	+2,510	.	. .	.	—470	—4	—480	+2,000

APPEN

Table

Average hours worked per week in

Mineral Field.	Underground					
	Overmen and Sirdars. — Foremen and Mates.	Miners.	Loaders	Skilled Labour	Un-skilled Labour	Females.
Jharia Coalfield (B. & O.)	47	43	43	46	46	43
Raniganj ,, (Bengal)	48	43	43	46	46	43
Giridih ,, (B & O.)	45	36	36	46	46	36
Assam ,,	53	36	54	53	53	...
Punjab ,,	44	38	36	41	45	...
Baluchistan Coalfield	36	36	37	36	21	...
Pench Valley Coalfield (C. P.)	50	44	47	48	48	47
B. & O Mica	44	40	...	45	43	45
Madras Mica	45	46	...	45	45	46
C P. Manganese	50	47	...	49	48	48
Madras Manganese	...	...	...	.	...	...
C. P. Limestone	...	...	...	...		...
B & O Iron	...	...	...	...	...	...
Burma Lead	51	51	...	51	50	...
Burma Tin	46	45	...	45	48	45
Punjab Salt	45	46	...	51	48	33
B. & O China Clay	48	48	...	...	48	48
Punjab Slate	52	48	...	53	56	...
C. P. Stone	...	...	...	...	...	...

DIX I—*contd.*

No. 2.

each important mining field during the year 1929.

Open workings.						Surface.			
Overmen and Sirdars — Foremen and Mates	Miners	Loaders	Skilled Labour	Un-skilled Labour	Females	Clerical and Supervising Staff	Skilled Labour	Un-skilled Labour.	Females.
46	43	43	44	46	43	53	52	51	51
45	43	40	47	17	44	53	57	50	49
48	44	44	48	48	45	50	48	47	49
54	54	54	54	54	54	56	56	56	56
			..			50	47	17	36
				...		48	46	34	.
42		..		42	42	51	52	50	50
44	44		46	44	45	45	44	47	53
46	45		46	46	45	46	46	45	45
46	44		47	46	44	48	46	46	45
52	48		49	50	49	47	50	49	50
48	47		52	49	47	47	49	47	48
48	17		48	47	45	48	48	48	45
47	47	...	47	47	..	53	53	53	...
49	50		49	49	47	48	44	45	49
48	48		...		...	48	52	51	48
43	42		48	42	43	46	44	44	44
48	46	.	48	48	.	48	...	48	...
46	43		42	44	44	50	44	38	37

APPEN

Table

Analysis of figures relating to

Province.	Coalfield.	Coal. Opening stock	Raisings.	Total.	Despatches	Colliery consumption.	Coal delivered for coking.
		Tons	Tons	Tons.	Tons	Tons.	Tons
Assam	Makum . . .	.	262,487	262,987	243,315	16,882	2,790
	Nazira	145	58,558	58,703	57,607	1,042	..
Baluchistan .	Baluchistan . .	873	10,984	11,857	10,547	..	..
Bengal (and part of Bihar and Orissa).	Raniganj „ .	345,100	6,828,053	7,173,153	6,469,132	471,219	80,198
Bihar and Orissa.	Jharia . .	1,208,676	10,785,745	11,994,421	9,068,486	570,085	1,105,757
	Bokaro . .	4,440	2,118,703	2,123,143	2,064,646	41,546	16,091
	Karanpura .	1,329	467,127	468,956	450,762	15,122	...
	Giridih . .	15,631	771,165	786,796	725,915	43,487	...
	Jainty . . .	1,642	40,732	42,374	28,947	11,884	...
	Daltonganj . .	...	1,522	1,522	.	1,523	...
	Hutar . .	273	357	630	159	356	.
	Hingir-Rampur .	1,226	31,774	38,000	28,818	8,501	.
Central Provinces.	Pench Valley .	5,025	680,270	685,295	642 574	35,370	...
	Chanda . .	5,949	202,061	208,010	150,416	21,127	...
Punjab . .	Salt Range . .	2,032	43,136	45,168	41,213	1,229	...
	Total 1929 .	1,592,841	22,308,174	23,901,015	20,612,567	1,239,372	1,204,836

DIX I—*contd*

No. 3.

output of Coal and Coke, 1920.

		Coke.									
Coal despatched to coke factories	Closing stocks	Opening stocks		Coke made		Despatches.		Colliery consumption		Closing stocks.	
		Hard	Soft.	Hard	Soft.	Hard	Soft	Hard	Soft	Hard.	Soft
Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons.	Tons.
..		..		930		900	.	30			...
.	54	.	..				..	..	...	...	..
.	1.310	...					.		..		...
...	152,604	26	1,764	353	60,134	353	58,410	.	979	26	2,509
1,668,183	650,093	5,020	6,495	66,428	693,186	68,182	691,299	814	1,148	2,452	7,234
..	660	215	1	4,742	4,407	4,863	4,406	92	...	2	2
	3,072	..							...		...
53,778	17,394			.			...	.	...		...
	1,543		...	.			..		..		...
.	..				...				..	...	...
...	115		.			.	.	..	...	..	...
	681							..	...	...	...
	7,851	...				...		...	...	...	...
	6,437						...	..	...	...	...
	2,126				.	.	..	...	...	...	...
1,721,961		5,261	8,260	72,453	757,727	74,298	754,115	936	2,127	2,480	9,745

Table

Analysis of figures relating to

Province.	Coalfield.	Coal.					
		Opening stock.	Raisings	Total.	Despatches	Colliery consumption.	Coal delivered for coking
		Tons	Tons.	Tons.	Tons	Tons.	Tons.
Assam	Makum . . .	..	262,987	262,987	243,315	16,862	2,700
	Nazira .	145	58,558	58,703	57,607	1,042	
Baluchistan	Baluchistan . .	873	10,984	11,857	10,547	..	.
Bengal (and part of Bihar and Orissa).	Raniganj „ .	345,100	6,828,053	7,173,153	6,409,132	471,219	80,198
Bihar and Orissa.	Jharia .	1,208,676	10,785,745	11,994,421	9,668,486	570,085	1,105,737
	Bokaro . .	4,440	2,118,703	2,123,143	2,064,646	41,546	16,091
	Karanpura .	1,329	467,127	468,956	450,762	15,122	...
	Giridih .	15,631	771,165	786,796	725,915	43,487	...
	Jainty . .	1,642	40,732	42,374	28,947	11,884	...
	Daltonganj .	...	1,522	1,522	.	1,522	...
	Hutar . .	273	357	630	159	356	..
	Hingir-Rampur .	2,226	33,774	38,000	28,818	8,501	...
Central Provinces.	Pench Valley .	5,025	680,270	685,295	642 574	35,370	...
	Chanda . .	5,940	202,061	208,010	150,446	21,127	.
Punjab . .	Salt Range . .	2,032	43,136	45,168	41,213	1,229	...
	Total 1929 .	1,592,841	22,308,174	23,901,015	20,612,567	1,229,273	1,204,826

DIX I—*contd*

No. 3.

output of Coal and Coke, 1929.

		Coke.									
Coal despatched to coke factories.	Closing stocks	Opening stocks		Coke made		Despatches.		Colliery consumption		Closing stocks.	
		Hard	Soft.	Hard.	Soft	Hard	Soft.	Hard	Soft.	Hard.	Soft
Tons	Tons	Tons	Tons	Tons	Tons.	Tons	Tons	Tons	Tons	Tons.	Tons
.				930		900	.	30			...
.	54		...				..	..	.	...	. .
.	1,810	...					..		..		...
...	152,604	26	1,764	353	60,134	353	58,110		979	26	2,509
1,608,183	630,093	5,026	6,495	66,428	693,186	68,182	691,299	814	1,148	2,422	7,234
...	860	215	1	4,742	4,407	4,863	4 406	92	..	2	2
	3,072	.		.				.	...	..	...
53,778	17,394			..		.	..	.	...	.	...
	1,543	.	...	.		.	..		. .		...
...	..								...	. .	...
...	115					.	.		...	..	...
	681		.				.	.	...	...	...
	7,851	...				...		...	..	..	...
	6,437						..	.	...	...	...
	[illegible]						.	...	...	..	...
1,741,961		5,261	[illegible]	72,453	737,727	74 299	754,115	906	2,127	[illegible]	9,745

APPEN

Table

Analysis of figures relating t

Province.	Coalfield.	Coal. Opening stock.	Raisings	Total.	Despatches	Colliery consumption	Coal delivered for coking
		Tons	Tons	Tons	Tons	Tons.	Tons
Assam	Makum	.	262,987	262,987	243,315	16,882	2,79
	Nazira	145	58,558	58,703	57,607	1,042	.
Baluchistan	Baluchistan	873	10,984	11,857	10,547	...	...
Bengal (and part of Bihar and Orissa).	Raniganj	345,100	6,828,053	7,173,153	6,409,132	471,219	80,19
Bihar and Orissa.	Jharia	1,208,676	10,785,745	11,994,421	9,068,486	570,085	1,105,75
	Bokaro	4,440	2,118,703	2,123,143	2,064,646	41,516	16,09
	Karanpura	1,329	467,127	468,956	450,762	15,122	...
	Giridih	15,631	771,165	786,796	725,915	43,467	...
	Jainty	1,642	40,732	42,374	28,947	11,884	...
	Daltonganj	..	1,522	1,522		1,522	...
	Hutar	273	357	630	159	356	..
	Hingir-Rampur	1,226	36,774	38,000	28,818	8,301	..
Central Provinces.	Pench Valley	5,025	680,270	685,295	642,574	35,370	...
	Chanda	5,949	202,061	208,010	150,446	21,127	..
Punjab	Salt Range	2,032	43,136	45,168	41,213	1,229	...
	Total 1929	1,592,341	22,308,174	23,901,015	20,612,567	1,239,37[illegible]	1,204,83

DIX I—*contd*

No. 3.

output of Coal and Coke, 1920.

Coal despatched to coke factories.	Closing stocks	Coke. Opening stocks Hard.	Opening stocks Soft	Coke made Hard	Coke made Soft	Despatches Hard	Despatches Soft	Colliery consumption. Hard	Colliery consumption. Soft	Closing stocks. Hard.	Closing stocks. Soft
Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons.	Tons.
				930	..	900	...	30	..	.	...
..	54		...		.		...	...	...	...	...
..	1,310	...				..	..	.	...	...	...
...	152,604	26	1,761	353	60,134	853	58,410	...	979	26	2,509
1,668,183	650,003	5,020	6,495	66,428	693,186	68,182	691,209	814	1,148	2,432	7,234
...	860	215	1	4,742	4,407	4,863	4,406	92	...	2	2
	3,072	.		.	...		.	..	...	..	...
53,778	17,394			..	...	...	...	..	...	..	...
	1,543		...	.		..	..	...	..	..	...
.					...	..	...	..	...	...	...
..	115			.		...	..	...	...	..	...
	681		..			...	..	..	...	...	...
	7,851	...		..	..	...	.	...	...	..	...
	6,457				..	...	..	...	...	...	...
	2,126	.	.	...	...	.	...	...	...	...	...
1,741,961		5,261	8,200	72,453	727,727	74,208	754,115	906	2,127	2,490	8,743

APPENDIX I—*contd.*

Table No. 4.

Number of mines opened, closed and inspected, during the year 1920.

Province.	District and mineral field.	Number of mines under the scope of the Act	Number of mines.				Inspections.	
			Worked under mechanical power	Not worked by mechanical power	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
				COAL.				
Assam	Makum Coalfield	7	5	2	..	...	7	12
	Nazira "	2	1	1	1	1	1	5
Baluchistan	Baluchistan Coalfield	13	..	13	3	3	..	..
Bengal (and part of Bihar and Orissa).	Raniganj Coalfield	208	166	42	26	20	219	796
Bihar and Orissa.	Jharia Coalfield	248	174	74	20	18	260	838
	Bokaro "	5	5	...	.	.	5	17
	Karanpura Coalfield	4	3	1	1	...	3	8
	Giridih Coalfield	8	6	2	...	1	7	24
	Jainty "	4	1	3	...	...	1	1
	Daltongunj Coalfield	1	1	...	.	...	2	2
	Hutar Coalfield	2	...	2	1	2	1	1
	Hingir-Rampur Coalfield	1	1	...	.	...	1	2
Central Provinces.	Pench Valley Coalfield	23	14	9	5	4	21	92
	Chanda Coalfield	6	5	1	...	.	6	12
	Total	...	.	...	..	..	..	..

APPENDIX I—*contd.*

Table No. 4—*contd.*

Number of mines opened, closed and inspected, during the year 1929—*contd.*

Province	District and mineral field.	Number of mines under the scope of the Act	Number of mines.				Inspections.	
			Worked under mechanical power	Not worked by mechanical power	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
			COAL—*contd.*					
Punjab	Salt Range Coalfield . .	16		16	4	3	...	...
	Grand Total (Coal) for 1929	548	382	166	70	52	537	1,820
	Grand Total of preceding year	556	406	150	31	80	543	1,881
	Difference .	−8	−24	+16	+39	−28	−6	−61
			IRON ORE.					
Bihar and Orissa	Singhbhum . . .	6	3	3	..	...	4	4
Burma .	.	7	.	7	...	2	2	4
	Grand Total (Iron ore) for 1929	13	3	10	..	2	6	8
	Grand Total of preceding year	14	3	11	2	...	8	14
	Difference .	−1	...	−1	−2	+2	−2	−6
			MANGANESE ORE.					
Bihar and Orissa	. . . . . .	12	.	12	1	5	11	11
Bombay . .	. . . . . .	11	1	10	3	2	...	...

APPENDIX I—*contd.*

Table No. 4—*contd.*

Number of mines opened, closed and inspected, during the year 1929—*contd.*

Province	District and mineral field.	Number of mines under the scope of the Act.	Number of mines. Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Inspections. Number of mines inspected.	Number of inspections.
			MANGANESE ORE—*contd*					
Central Provinces.	...	94	9	85	9	32	64	80
Madras	...	8	1	7	..	1	5	5
	Grand Total (Manganese Ore) for 1929.	125	11	114	13	40	80	96
	Grand Total of preceding year	184	9	175	26	57	52	58
	Difference	—59	+2	—61	—13	—17	+28	+38
			LEAD ORE.					
Burma	Shan States	5	4	1	1	2	2	9
	Total of preceding year	4	3	1	1	..	4	20
	Difference	+1	+1	...	...	+2	—2	—11
			GOLD.					
Bihar and Orissa	Singhbhum	1	...	1	...	...	1	1
	Total of preceding year	1	...	1	...	...	1	1
	Difference	...	...	...	...	...	..	...

APPENDIX I—*contd.*

Table No. 4—*contd.*

Number of mines opened, closed and inspected, during the year 1929—*contd.*

PROVINCE	District and mineral field	Number of mines under the scope of the Act	NUMBER OF MINES				INSPECTIONS.	
			Worked under mechanical power	Not worked by mechanical power	Opened during the year.	Closed during the year.	Number of mines inspected.	Number of inspections.
			TIN AND WOLFRAM ORE.					
Burma .	. . . .	186	9	177	48	33	63	74
	Grand Total of preceding year .	203	9	194	70	37	6	6
	Difference	—17		—17	—22	—4	+57	+68
			CHROMITE ORE.					
Baluchistan .	Zhob	31	...	31	..	...	..	...
Bihar and Orissa	Singhbhum	3	...	3	1	1	3	3
	Grand Total (Chromite Ore) for 1929	34	...	34	1	1	3	3
	Grand Total of preceding year	35	.	35	1	1	5	6
	Difference .	—1	.	—1	.	..	—2	—3
			COPPER ORE.					
Bihar and Orissa	Singhbhum . . .	1	1	.	..	...	1	2
Burma .	Henzada	1	...	1	...	.		..
	Grand Total (Copper Ore) for 1929.	2	1	1	...		1	2
	Grand Total of preceding year	4	2	2	1	1	2	3
	Difference .	—2	—1	—1	—1	—1	—1	—1

APPENDIX I—*contd.*

Table No. 4—*contd.*

Number of mines opened, closed and inspected, during the year 1929—*contd.*

Province.	District and mineral field.	Number of mines under the scope of the Act.	Number of mines: Worked under mechanical power	Number of mines: Not worked by mechanical power.	Number of mines: Opened during the year.	Number of mines: Closed during the year	Inspections: Number of mines inspected	Inspections: Number of inspections.
				GEMS				
Burma . .	Katha	1	1	...	...	.	1	2
	Total of preceding year .	2	2	.	...	..	...	...
	Difference .	—1	—1	...	...	...	+1	+2
				MICA				
Bihar and Orissa.	.. . .	397	24	373	174	143	148	186
Madras .	. . . . .	77	7	70	20	19	39	39
Rajputana	Ajmer-Merwara . .	24	...	24	14	18	...	..
	Grand Total (Mica) for 1929	498	31	407	208	180	157	225
	Grand Total of preceding year	674	83	591	199	278	164	166
	Difference .	—176	—52	—124	+9	—98	+23	+59
				SALT.				
Punjab . .	Salt Range	3	2	1	...	...	...	...
	Total of preceding year	3	1	2	...	...	2	4
	Difference .	...	+1	—1	...	...	—2	—4

APPENDIX I—*contd.*

Table No. 4—*contd.*

Number of mines opened, closed and inspected, during the year 1929—*contd.*

Province	District and mineral field	Number of mines under the scope of the Act	Number of mines. Worked under mechanical power	Number of mines. Not worked by mechanical power	Number of mines. Opened during the year.	Number of mines. Closed during the year.	Inspections. Number of mines inspected.	Inspections. Number of inspections.
				MAGNESITE.				
Madras	Salem	5	..	5	1	..	...	...
	Total of preceding year	4		4	1	...	2	2
	Difference	+1		+1		...	—2	—2
				BAUXITE.				
Bombay	Kaira	1	..	1		...	1	1
	Total of preceding year	2		2	..	1	1	1
	Difference	—1		—1		—1	..	...
					STEATITE.			
Bihar and Orissa	Singhbhum	7	..	7	3	4	1	1
Central Provinces	Jubbulpore	6	.	6	1	2	2	2
Madras	Nellore	2	.	2	...	.	...	..
United Provinces		14	.	14	9	13	16	17
	Grand Total (Steatite) for 1929	29	...	29	13	19	19	20
	Grand Total of preceding year	28	..	28	7	14	14	14
	Difference	+1		+1	+6	+5	+5	

APPENDIX I—*contd.*

Table No. 4—*contd.*

Number of mines opened, closed and inspected, during the year 1929—*contd.*

Province	District and mineral field	Number of mines under the scope of the Act	Number of mines: Worked under mechanical power.	Number of mines: Not worked by mechanical power.	Number of mines: Opened during the year.	Number of mines: Closed during the year	Inspections: Number of mines inspected.	Inspections: Number of inspections.
				SLATE.				
Bihar and Orissa.	Monghyr . . .	5		5	1	2	5	5
Punjab . .	. . . . . .	8	...	8	1	...	..	...
	Grand Total (Slate) for 1929 .	13	..	13	2	2	5	5
	Grand Total of preceding year .	13	.	13	...	1	9	9
	Difference .		.	...	+2	+1	−4	−4
				LIMESTONE.				
Bihar and Orissa	Shahabad . . .	11	1	10	1	3	9	9
Bombay . .	Sukkur	1	...	1	1	..	..	..
Burma .	.. . .	6	.	6		1	1	2
Central Provinces	... .	19	2	17	4	2	17	18
Punjab . .	... .	6	..	6	2	...	..	...
	Grand Total (Limestone) for 1929.	43	3	40	6	6	27	29
	Total of preceding year.	41	4	37	4	5	30	33
	Difference	+2	−1	+3	+4	+1	−3	−4

APPENDIX I—*contd.*

Table No. 4—*contd.*

Numbers of mines opened, closed and inspected, during the year 1929—*contd.*

Province	District and mineral field	Number of mines under the scope of the Act.	Number of mines. Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Inspections. Number of mines inspected	Number of inspections.
			IGNEOUS ROCK.					
Bengal	Birbhum	4	1	3	...	.	..	...
Bihar and Orissa	.	59	.	59	11	12	3	3
Bombay	. .	23	.	23	19	3	...	...
Burma .	...	19		19	9	4	11	12
Central Provinces	Chhindwara .	1		1	.	1	..	..
	Grand Total (Igneous Rock) for 1929	106	1	105	39	20	14	15
	Grand Total of preceding year	87	1	86	26	16	89	134
	Difference .	+19		+19	+13	+4	—75	—119
			STONE (unspecified)					
Bihar and Orissa.		12		12	3	8	4	4
Burma	Mergui	1	...	1	1	...	..	...
Delhi . .	Delhi . .	1	...	1	1	1	..	...
Punjab .	. . .	12	...	12	5	..	..	...
United Provinces	. . .	28	.	28	6	2	31	34
	Grand Total (Stone unspecified) for 1929	54	...	54	16	11	35	33
	Grand Total of preceding year	40	...	40	5	6	26	23
	Difference	+14		+14	+11	+5	+9	+10

APPENDIX I—*contd.*

Table No. 4—*contd.*

Number of mines opened, closed and inspected, during the year 1929—*contd.*

Province	District and mineral field	Number of mines under the scope of the Act	Number of mines: Worked under mechanical power.	Number of mines: Not worked by mechanical power	Number of mines: Opened during the year	Number of mines: Closed during the year.	Inspections: Number of mines inspected.	Inspections: Number of inspections
				LATERITE.				
Burma .	.. . . .	2		2	..	...	.	...
Central Provinces.	Jubbulpore	3		3	2	1	...	..
	Grand Total (Laterite) for 1929	5		5	2	1		
	Grand Total of preceding year .	4	..	4	2	...	1	2
	Difference .	+1	...	+1	..	+1	−1	−2
				SANDSTONE				
Bihar and Orissa	Shahabad	4	..	4	.	...	1	7
Burma .	Bassein	1	...	1	...	.	...	..
Central Provinces.	Jubbulpore	2	..	2	2	1	.	...
United Provinces.	... .	9	...	9	1	3	11	13
	Grand Total (Sandstone) for 1929.	16	...	16	3	4	15	20
	Grand Total of preceding year.	10	..	10	1		5	7
	Difference .	+6	.	+6	+2	+4	+10	+13
				MURUM.				
Bombay	.. . . . .	2	...	2			1	1
	Total of preceding year . .	2	...	2	2	..	2	4
	Difference .		..	...	−2		−1	−3

APPENDIX I—*contd.*

Table No. 4—*contd.*

Number of mines opened, closed and inspected, during the year 1929—*contd.*

Province	District and mineral field	Number of mines under the scope of the Act	Number of mines: Worked under mechanical power	Number of mines: Not worked by mechanical power.	Number of mines: Opened during the year	Number of mines: Closed during the year	Inspections: Number of mines inspected	Inspections: Number of inspections
				FIRE CLAY				
Bengal	Burdwan . .	3		3	2	1	1	1
Bihar and Orissa	.	6	1	5	...	1	3	3
Central Provinces	Jubbulpore . . .	5	1	4	1	1	4	4
	Grand Total (Fire Clay) for 1929	14	2	12	3	3	8	8
	Grand Total of preceding year	13	2	11	2	2	5	5
	Difference	+1		+1	+1	+1	+3	+3
				CHINA CLAY.				
Bihar and Orissa	. . .	6	...	6	...	1	6	6
Delhi	Delhi . .	1		1	1	1	..	...
	Grand Total (China clay) for 1929	7		7	1	2	6	6
	Grand Total of preceding year	7	2	5	2		4	4
	Difference .	.	−2	+2	−1	+2	+2	+2
				CLAY.				
Bengal	Burdwan	1	1	...	..	...	1	1
Central Provinces	Jubbulpore . .	1	.	1	..	...	1	2
	Grand Total (Clay) for 1929 .	2	1	1			2	3
	Grand Total of preceding year .	2	1	1	...	..		...
	Difference .	.	...		...	...	+2	+

APPENDIX I—*contd.*

Table No. 4—*contd.*

Number of mines opened, closed and inspected, during the year 1920—*contd.*

Province	District and mineral field	Number of mines under the scope of the Act	Number of mines. Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year	Inspections. Number of mines inspected	Number of inspections.
				GRAPHITE				
Rajputana .	Ajmer-Merwara .	1	...	1	1	1	..	..
	Total of preceding year .	...	...	...	.	..	...	.
	Difference .	+1	...	+1	+1	+1	...	..
				BARYTES.				
Madras . .	Kurnool	7	.	7	5	5	...	...
	Total of preceding year .	6	..	6	2	3	3	3
	Difference .	+1	.	+1	+3	+2	—3	—3
				APATITE.				
Bihar and Orissa	Singhbhum	1	...	1	..	1	1	1
Madras . .	Trichinopoly	1	...	1	1	...	.	...
	Grand Total (Apatite) for 1920	2	...	2	1	1	1	1
	Grand Total of preceding year	1	...	1	...	—	...	...
	Difference .	+1	...	+1	+1	+1	+1	+1
				ASBESTOS.				
Madras .	Cuddapah	1	...	1	...	...	...	...
	Total of preceding year .	1		1	...	.	..	...
	Difference .	.	...	..	..	..	...	...

APPENDIX I—*contd.*

Table No. 4—*concld.*

Number of mines opened, closed and inspected, during the year 1929—*concld.*

Province.	District and mineral field	Number of mines under the scope of the Act	Number of mines.				Inspections.	
			Worked under mechanical power.	Not worked by mechanical power.	Opened during the year.	Closed during the year.	Number of mines inspected	Number of inspections.
			OCHRE.					
Central Provinces	. . .	2		2	.	1	...	.
	Total of preceding year .	3		3	2	1	...	...
	Difference .	—1	.	—1	—2	..	..	...
			KYANITE.					
Bihar and Orissa.	Singhbhum .	2	1	1	..	1	1	1
	Total of preceding year	..	..		.	...	.	..
	Difference	+2	+1	+1	.	+1	+1	+1
			CORUNDUM.					
Madras .	.. . .	3		3	2	1		...
	Total of preceding year .	1	..	1	.	..	1	1
	Difference	+2	..	+2	+2	+1	—1	—1
			BERYL					
Rajputana	Ajmer-Merwara .	1		1	1	1	..	...
	Total of preceding year .	2	.	2	2	2	1	1
	Difference .	—1	..	—1	—1	—1	—1	—1
	Grand Total (Metalliferous Mines)	1,184	70	1,114	369	337	479	563
	Grand Total of preceding year.	1,392	122	1,270	358	422	439	523
	Difference .	—208	—52	—156	+11	—85	+40	+39
	Grand Total (All Minerals).	1,732	452	1,280	433	389	1,016	2,388
	Grand Total of preceding year.	1,948	528	1,420	383	502	982	2,410
	Difference .	—216	—76	—140	+50	—113	+34	—22

APPENDIX I—*contd.*

Table No. 9.

Number and type of coal-cutting machines at work in Coal Mines under the Indian Mines Act.

Maker.	British.	American.	Chain	Bar	Percussive	Power. Electricity. A. C.	D. C.	Compressed air	Total number of machines.
Anderson Boyes	2	..	2	...	...	2	...	.	2
Goodman	...	73	73	.	. .	46	27	. .	73
Hardiax	2	.	...	..	2		..	2	2
Mavor and Coulson	80	...	16	64	. .	70	1	9	80
Siskol	2	...	..	...	2	. .	...	2	2
Sullivan	...	14	14	.	. .	14	.	...	14
Total	86	87	105	64	4	132	28	13	173

Jharia coalfield . . . . 78 machines
Raniganj cealfield . . . . . . 91 „
Central Provinces coalfield . . . . . . 4 „
} Total number of square feet undercut 9,769,640

Table No. 10.

Number of mechanical ventilators in use at Coal Mines under the Indian Mines Act.

Assam.	Bengal	Bihar and Orissa	Central Provinces	Total.
12	20	34	8	74

Table No. 11.

Number of safety lamps in use at Coal Mines under the Indian Mines Act.

Assam.	Baluchistan.	Bengal	Bihar and Orissa	Central Provinces.	Punjab.	Total.
2,362	6	9,436	8,431	2	2	20,239

959 were locked by screws, 7,452 by lead rivets, and 11,828 by magnetic means

Table No. 12.

Statement of explosives used during the year 1929 in mines under the Indian Mines Ac

Name of explosive.	Quantity of explosives used, in lb, in — Coal mines.	Mica mines	Manganese mines	Lead ore mines	Tin and Woolfram ore mines	Limestone mines	Stone mines	Other mines.	Total.
Dynamite	169,496	95,257	17,855	...	11,035	5,363	16,788	68,104	383,91
Gelignite	79,091	9,784	121,764	185,121	1,474	12,598	54,113	72,633	536,57
Monobel	56,212	.	...	...	...	...	...	...	56,24
Stonobel	85,377	...	...	...	...	...	.	..	85,37
Bobbinite	183		...	...		...			18
Gunpowder	2,340,393	6,671	135,529	.	952	191,705	222,079	151,068	3,018,39
Compressed gunpowder.	14,152	...	...	.	...	.	. .	...	14,15
Number of detonators used.	1,436,536	760,165	727,572	370,600	107,833	54,730	291,152	539,222	4,287,81

APPENDIX II.

APPENDIX II.

ACCIDENTS IN MINES.

Table No. 1.

Fatal Accidents during the year 1929.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks
		EXPLOSIONS AND IGNITIONS OF FIRE-DAMP—(*8 deaths*).				
1	16th April, 3-30 P.M.	Sawang mine, Bokaro P. O., Bihar and Orissa.	East Indian and Bengal Nagpur Railways.	Kartar Singh, (*m*), 22 Arjun Singh, (*m*), 20 Gainda Singh, (*m*), 25. Sohan Gope, (*m*), 27. Bhikwa Gope, (*m*), 22. Bhagat Singh, (*m*), 35.	Coal	In a pumping shaft, 65 feet deep and 8 feet in diameter, which was sunk to the floor of a coal seam 50 feet thick, four men were changing a pump on a platform 50 feet from the surface. After they had been at work for seven hours the shaft was filled with fire-damp by a blower issuing from the coal at a depth of 35 feet. The four men in the shaft and five men who were at work at the top of the shaft received severe burns when the fire-damp was ignited by a match or cigarette and six of them subsequently died. The shaft was only 10-20 feet from the face of a quarry; it was not connected to any system of underground workings, and naked lights had been used in it for over four years. Inspection and inquiry made.
2	16th May, 7-45 A.M.	Kongon mine, Kongnyu P. O., Assam.	Nazira Coal Co., Ld.	Abdul Jelil, (*m*), 48, *Coal-cutter*.	Coal	Two miners carrying *open lights* entered a narrow rise gallery and ignited an accumulation of inflammable gas. Both men were seriously burnt, and one of them succumbed to his injuries four days later. Inspection and inquiry made.
3	11th December, 9 P. M.	Barmondia mine, Sitarampur P. O., Bengal.	New Beerbhoom Coal Co., Ld.	Majhar Meah, (*m*), 35, *Driller*.	Coal	In a mine in which inflammable gas had never been found, a driller carrying an open light entered a rise gallery and ignited an accumulation of fire-damp. He was severely burned and died twenty-eight hours later. The gas issued from the face of an adjacent level gallery which was approaching an intrusive dyke. Inspection and inquiry made.

FALLS OF ROOF AND SIDES.

(a) Falls of roof—(*99 deaths*).

4	5th January, 1 A.M.	Neamatpur mine, Sundarchak P. O., Bengal.	Equitable Coal Co., Ld	Bishu Pandey, (*m*), 24, *Coal-cutter*	Coal	Contrary to orders a gang of miners entered a goaf which had been fenced off. They fired a shot in the side of a pillar, and while loading the coal they had brought down a mass of stone, 25′ × 9′ × 1′ 3′, fell from the roof,—a height of 14 feet. One of the miners was struck by the falling stone and killed instantly. Inspection and inquiry made
5	9th January, 12-30 P.M.	Loyabad mine, Bansjora P. O., Bihar and Orissa.	Burrakur Coal Co., Ld.	Douri Baurin, (*f*), 35, *Loader*	Coal	Deceased was sitting some 10 or 12 feet from a place where roof coal had recently been blasted, when a mass of coal and stone [illegible]0′ × 12′ × 2′ fell from a height of 11 feet. She was killed instantly. Inspection and inquiry made.
6	10th January, 6 A.M.	Deoli mine, Dishergarh P. O., Bihar and Orissa.	Deoli Coal Co., Ld.	Khenti Baurin, (*f*) 38, *Coal carrier*	Coal	Whilst a woman was loading coal on the deep side of a pillar under extraction, a fall of roof occurred in the adjacent goaf. The fallen stone slid down the slope and rolled over on to her, causing injuries from which she died six days later. Inspection and inquiry made.
7	14th January, 1-15 P.M.	Bawdwin mine, Namtu P. O., Burma.	Burma Corporation, Ld.	Shein Lew San, (*m*) 35; *Miner.*	Silver-lead-zinc	A miner was driving a cross-cut 7 feet × 5 feet through broken ground in an area which had been on fire when a quantity of hot fine rock fell upon him from between the supporting timbers. He was severely burned and died two days later. Inspection and inquiry made
8	17th January, 11 P.M.	Bawdwin mine, Namtu P. O., Burma.	Burma Corporation, Ltd	Tone Kyain Sone, (*m*), 21, Kyain Yu Swin, (*m*), 23, *Miners*	Silver-lead-zinc	Two miners who were engaged in timbering operations near the face of a stope were killed by a mass of fine ore weighing about 15 tons which fell from the back. Inspection and inquiry made.
9	20th January, 7-30 A.M.	Haripur mine, Chora P. O., Bengal.	K. P. Chatterjee & Brothers.	Gokul Bauri, (*m*), 32, *Loader.*	Coal	A miner passed through a fence and was loading coal in a gallery when he was killed by a mass of roof coal, 35′ × 22′ × 1′ 6,″ which fell from a height of 21 feet. Inspection and inquiry made.
10	21st January, 2 P.M.	Central Kirkend mine, Kusunda P. O., Bihar and Orissa.	Central Kirkend Coal Co., Ltd.	Ughni Kolin, (*f*), 23, *Coal-carrier.*	Coal	Whilst a woman was loading coal in a gallery in which roof coal had recently been cut, she was killed by a mass of roof coal, 4 feet thick, weighing about 12 tons, falling from between two concealed slips. Inspection and inquiry made.
	30th January, 2-15 P.M.	Deoli mine, Dishergarh P. O., Bihar and Orissa.	Deoli Coal Co., Ltd	Suramani Mejhian, (*f*), 20, *Loader.*	Coal	Whilst filling a basket of coal a female loader was fatally injured by a triangular shaped mass of coal, 6′ × 3′ × 1′ 6′, which fell without warning from a height of 5½ feet. Inspection and inquiry made

APPENDIX II—*contd.*

Fatal Accidents during the year 1929—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner	Name, sex, age and occupation of person killed.	Name of mineral worked	Cause of accident and remarks
			FALLS OF ROOF AND SIDES—*contd.*			
			(a) Falls of roof—(99 *deaths*)—*contd.*			
12	31st January, 3-30 A. M.	Dharajoba mine, Kusunda P. O., Bihar and Orissa	Dharajoba Colliery Co.	Dhanu Manjhi, (*m*), 28, *Coal-cutter*	Coal	A miner was cutting roof coal in a gallery, 8 feet high when a mass of coal, 5′ × 4′ 6″ × 1′ 6″, fell from a concealed "slip". He was struck by the falling coal and sustained injuries to which he succumbed three days later. Inspection and inquiry made.
13	5th February, 5-30 A. M.	Katras mine, Katrasgarh P. O., Bihar and Orissa	Burrakur Coal Co., Ld.	Sewa Meah, (*m*), 35, Khagoo Meah, (*m*), 32, *Coal-cutters*	Coal	Whilst the roof of a gallery, 5 feet high, was being dressed a mass of stone, 10′ × 5′ × 1′, fell from between concealed "slip". A miner was killed on the spot and two others were seriously injured, one of the latter died three weeks later. Inspection and inquiry made.
14	13th February, 2 30 A. M.	South East Baraboni mine Charanpur P. O., Bengal	Maharaja of Cossimbazar.	Sukar Meah, (*m*), 29, Khublal Chamar, (*m*), 28, *Coal-cutters*	Coal	Two miners entered a fenced off goaf with the intention of loading fallen coal. They were struck by a mass of roof coal, weighing about 30 cwt., which fell from a height of 15 feet. One of them was killed instantly and the other was fatally injured. Inspection and inquiry made.
15	13th February, 6 P. M.	Benahir mine, Jharia P. O., Bihar and Orissa	Standard Coal Co., Ld.	Gajadhar Dosadh, (*m*), 50, *Coal-cutter.*	Coal	Whilst helping to dress down some roof coal after blasting, a miner was struck by a prop which was knocked out of position by a mass of coal, weighing 2 or 3 tons, falling from a height of 25 feet. He was seriously injured and died four days later. Inspection and inquiry made.
16	27th February, 1 A. M.	Cherangode mine, Cherambadi P. O., Madras	A. H. Gaston	Alavee, (*m*), 30, *Head-miner.*	Mica	Whilst a miner was drilling a shot hole in a tunnel which was being enlarged from 4 feet by 3 feet to 6½ feet by 6½ feet a mass of soft schist weighing about 5 cwt. fell and killed him instantly. Inspection and inquiry made.
17	4th March, 30 P. M.	Dandot mine, Dandot P. O., Punjab.	R. S. Thakurdass Ramjidas	Sardar, (*m*), 65, *Contractor.*	Coal	A contractor went to the face of a long wall working and was killed by the fall of roof stone weighing about 3 cwts. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1929—*contd.*

Serial number	Date and hour of accident.	Name and situation of mine	Name of owner.	Name, sex, age and occupation of persons killed.	Name of mineral worked.	Cause of accident and remarks
			FALLS OF ROOF AND SIDES—*contd.*			
			(a) Falls of roof—(*99 deaths*)—*contd.*			
25	9th April, 2 P.M.	Jamai Datla mine, Jamai P. O., Central Provinces	R. B. Mathura Prosad Motilal & Co	Panna Mehra, (*m*), 13, *Coal-carrier.*	Coal	A coal-carrier was filling a basket with coal when a mass of roof stone, 9′×5′×10″ to 1 6′ thick, fell on him from a height of 3½ feet, killing him instantly. Inspection and inquiry made.
26	13th April, 4 A.M.	Ledo Valley mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ld.	Dukhu Gore, (*m*), 27, Kashi Bostom, (*m*), 30, Ram Prosad Gowala, (*m*), 21, *Coal fillers*	Coal	While a number of coal fillers were at work in an "opening" or chamber, 21′×22′×15′ high a mass of coal weighing about 5 tons fell from a concealed slip in the roof Two of the men were killed instantly and a third was fatally injured. Inspection and inquiry made.
27	3rd May, 3-30 P.M.	Lower and Upper Jharia mine Jharia P. O, Bihar and Orissa	Khimji Dossa & Sons.	Chaman Bhuiya, (*m*.), 27, *Coal-cutter.*	Coal	Whilst at work in a gallery deceased was killed instantly by a mass of stone, 10′×5×1′6″, which fell from between "slips" at a height of 9 feet Inspection and inquiry made.
28	10th May, 1 A M.	Ashakuty mine, Katrasgarh P. O, *Bihar and Orissa.*	Chandanmull Indrakumar.	Apel Swami, Gowala (*m*.), 38, *Coal-cutter.*	Coal	Deceased was dressing down roof coal which had been loosened by blasting, when a mass of coal, 6′×4′×1′ 6″ fell on him from a height of 14 feet. He was killed instantly. Inspection and inquiry made.
29	16th May, 6 A. M.	Bawdwin mine, Namtu P. O., Burma.	Burma Corporation, Ld.	Four Chinese and six Indian miners.	Silver-lead-zinc	Sudden movement in the footwall of a wide lode of very soft ore caused the collapse of adjacent stopes and workings. Nine men were burried and killed instantly and another died a few hours afterwards. Inspection and inquiry made.
30	21st May, 3-15 P. M.	Datla mine, Junardeo P. O, Central Provinces	Amalgamated Coalfields, Ld.	Chaitto Pradhan, (*m*.), 44, *Coal-filler.*	Coal	In an underground working place, 5½ feet high, a mass of roof, 4′ 6″×2′ 6″×1′ 6′, fell from a concealed "slip". A coal loader who was working there was killed. Inspection and inquiry made.
31	26th May, 1 P. M.	Gambrala mine, Dandot P. O, Punjab.	R. S. L Thakurdas Ramjidas.	Drab, (*m*), 48, *Miner.*	Coal	A miner went through a fence to rob coal from a long wall face from which the props supporting the roof had been removed. A mass of roof stone fell and killed him. Inspection and inquiry made.

32	12th June, 3-30 A. M.	Chowrassie mine, Dishergarh P. O., Bihar and Orissa.	Equitable Coal Co., Ld	Bara Khanda Muluck, (*m*), 25, *Coal cutter.*	Coal	Whilst a miner was cutting coal from a pillar he was killed by a mass of stone, 6' 6" × 2' 9" × 4", which fell from the roof—a height of 6½ feet. Inspection and inquiry made.
33	14th June, 5-30 P. M.	West Gopalichuck mine Kusunda, P. O., Bihar and Orissa.	Gopalichuck Coal Co., Ld	Chamru Bilaspuri, (*m*.), 35, *Coal-cutter*	Coal	Whilst a miner was loading coal near the face of a pillar under extraction a mass of roof coal, 4' × 1' 6' × 9", fell from between two "slips" at a height of 18 feet. He sustained injuries which caused death two days later. Inspection and inquiry made.
34	16th June, 9-45 A. M.	Deoli mine, Dishergarh P. O., Bihar and Orissa	Deoli Coal Co., Ld.	Loku Manjhi, (*m*.), 25 *Coal-cutter* Dangee Mejhian, (*f*), 17, *Coal carrier*	Coal	Whilst two workmen were loading a tub on a tram level they were killed by a mass of coal 25' × 10' × 2', which fell from a "slip" in the roof—a height of 10 feet. Inspection and inquiry made.
35	27th June, 11-30 A. M	Newton Chickli mine, Parasia P. O., Central Provinces.	Newton Chickli Collieries, Ld.	Bhaggo Gadariya, (*m*) 25, *Cool-cutter*	Coal	Deceased was passing through an underground gallery when a mass of roof, 21' × 21' × 6', fell from a height of 8 feet He was killed instantly. Inspection and inquiry made
36	2nd July, 11 A. M.	Patmohna mine Sitarampur P. O., Bengal.	North Damuda Coal Co., Ld.	Baru Bauri, (*m*), 19, *Stone-cutter,*	Coal	Whilst a miner was at work in a gallery 7 feet high a mass of shale, 16' × 5' × 1' 3", fell from between two "slips" in the roof He was severely injured and died an hour later. As gallery had been driven parallel and adjacent to a dyke supports should have been set whether they appeared to be necessary or not Inspection and inquiry made.
37	7th July, 12-15 A. M.	Monoharbahal mine, Asansol P. O., *Bengal*	Chandanmull Indra kumar.	Kalipada Mukherji, (*m*.), 21, *Mining Apprentice.*	Coal	Deceased was sleeping in a gallery 17 feet wide and 6 feet high when a mass of coal, 28' × 17' × 10", fell from the roof and killed him instantly Eight props had been set under the part that fell. Inspection and inquiry made.
38	12th July, 8-15 P. M.	Sanctoria mine, Dishergarh P. O., Bengal	Bengal Coal Co., Ld	Giri Baurin, (*f*), 31, *Coal-carrier.*	Coal	In a place from which a piller of coal had been extracted a fall of roof took place and knocked out a prop in an adjoining working place. A woman was struck by the prop and killed Inspection and inquiry made
39	20th July, 4 A. M	Sikdardih mine, Giridih P. O., Bihar and Orissa.	Bayra Coal Association	Kanoo Rai, (*m*), 37, *Coal-cutter.* Behari Rai, (*m*), 15, Mukti Ghatwarin, (*f*), 35, Sumri Mussarin, (*f*.), 16, *Coal-carriers.*	Coal	In a part of a mine where pillars were being extracted a working place had become unsafe, and work in it had been prohibited. Four workmen who had entered it with the object of salving fallen coal were killed instantly by the fall of a large mass of roof stone. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1920—*contd.*

Serial number	Date and hour of accident.	Name and situation of mine	Name of owner	Name, sex, age and occupation of person killed.	Name of mineral worked	Cause of accident and remarks
			FALLS OF ROOF AND SIDES—*contd.*			
			(a) Falls of roof—*(99 deaths)*—*contd.*			
40	9th August, 3-40 P.M.	Lodna mine, Jharia P. O., Bihar and Orissa.	Lodna Colliary Co (1920), Ld	Dulari Pasin, (*f*), 39, *Loader*.	Coal	A miner was cutting roof coal 6½ feet thick in a gallery 24 feet high when a mass of coal, 6′ 6″ × 4′ × 3′, fell unexpectedly. Deceased who was sitting at a distance of 18 feet was struck by a piece of coal and killed instantly. Inspection and inquiry made.
41	3rd September, 7-45 A.M.	Sitalpur mine, Dishergarh P. O., Bengal.	Bengal Coal Co., Ld.	Meghu Barhi, (*m*.), 35, Duli Chamar, (*m*.), 50. *Propping Mistries*.	Coal	Whilst two timbermen were withdrawing props from a goaf, a mass of coal and stone, 30′ × 24′ × 3′, fell from a height of 13 feet. One of the timbermen was killed instantly and the other was fatally injured. Inspection and inquiry made.
42	6th September, 10-50 A.M.	Tikak mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ld	Babu-Nandan, (*m*.), 35, *Loader*.	Coal	Some loaders were removing coal from an "opening" or chamber, 15 feet high, when a number of shots were fired in an adjacent "opening" 30 yards away. Immediately after the shots were fired, a piece of coal weighing 28 lb. fell from the roof and struck one of the loaders fatally injuring him. The men should have been withdrawn from the "opening" while shots were being fired in the adjacent "opening". Inspection and inquiry made.
43	14th September, 1 A.M.	Benalir mine, Jharia P. O., Bihar and Orissa.	Standard Coal Co., Ltd.	Toofani Singh, (*m*.), 40, *Coal cutter*.	Coal	Whilst breaking up blasted coal in a gallery, deceased was struck and fatally injured by a piece of coal, 2′ 6″ × 1′ 8″ × 9″, which fell from a height of 25 feet. Inspection and inquiry made.
44	4th October, 6 P.M.	Borrea mine, Sitarampur P. O., Bengal.	New Beerbhoom Coal Co., Ltd.	Pahalan Kora, (*m*.), 25, *Coal-cutter*; Muku Korni, (*f*.), 45, *Coal-carrier*.	Coal	A miner and a coal-carrier passed through a fence and were robbing coal from the corner of a pillar when a mass of stone, 6′ × 4′ × 3′—9″, fell on them from a height of 6 feet. The miner was killed instantly and the coal-carrier received severe injuries from which she died six days later. Inspection and inquiry made.

45	[illegible]th October, 11-30 P. M.	Charanpur mine, Charanpur P. O., Bengal.	Apcar Collieries, Ltd	Maladi Tewari, (*m*), 10, *Labourer*	Coal	Whilst a propping cooly was assisting to erect some props at the edge of a goaf he was struck by a piece of coal, 4'×4'×2' 6" which fell from the roof—a height of *14 feet.* *He* was struck and fatally injured. Inspection and inquiry made
46	15th October, 1 P. M.	Datla mine, Junnordeo P. O., Central Provinces	Amalgamated Coalfields, Ltd	Durgo Dhimran (*f*), 14, Butna Gondni, (*f*), 15, Nawadi Purdani (*f*), 35, Munshi Purdani, (*m.*), 17, *Coal fillers*	Coal	*Contrary to orders* a sirdar allowed two miners and several coal-fillers to work in a gallery in which the manager had stopped work on the previous day. Whilst the gang was at work, a mass of stone, 13'×9'×5", fell from the roof—a height of 7½ feet. Four of the coal fillers were killed instantly, and two were injured. Inspection and inquiry made
47	21st October, 10 A. M.	Mahakali mine, Chanda P. O., Central Provinces.	Hajeebhoy Laljee & Co	Bakuloo, (*m*), 15, *Labourer.*	Coal	A coal-filler was sitting by the side of a gallery when he was struck and fatally injured by a piece of roof coal, 2'×2'×4', which fell from a height of 9 feet. Inspection and inquiry made.
48	8th November, 12-30 A. M.	Amlabad mine, Jealgora P. O., Bihar and Orissa	Eastern Coal Co., Ltd	Ibrahim Meah, (*m*), 28, *Machine coal dresser*, Tusia Ghatwarin, (*f*), 40, *Coal carrier*	Coal	Whilst coal was being cut and loaded in a machine cut gallery a mass of undercut coal, 13'×3'×2'–6', fell from a height of 5 feet. A miner was killed outright and a woman was fatally injured. The overhanging coal had been spragged, but the sprags failed to prevent its fall. Inspection and inquiry made
49	14th November	Akhalpur mine, Charanpur P. O., Bengal	Hurriladih Coal Co., Ltd	Lachu Kole, (*m*), 35, *Coal-cutter* Batu Kole, (*m*), 28, Antu Pariah (*m*), 28, *Coal-carriers.*	Coal	Whilst roof coal was being got down in a depillaring area in a seem 9 feet thick a mass of coal, 20'×20'×1' to 4' thick, fell without warning from the roof. Two miners who were loading baskets with coal under the edge of the roof coal which fell were crushed and killed instantly and another was fatally injured. Inspection and inquiry made.
50	19th November, 2-30 A. M.	Serampur mine, Giridih P. O., Bihar and Orissa.	East Indian Railway	Kehar Chamar, (*m*), 21, Sukhu Manjhi, (*m*), 40, Abdul Meah (*m*), 25, Punia Dosadhin, (*f*), 18, Dakhia Dosadhin, (*f*), 20	Coal	Preparatory to its extraction a pillar of coal, 50 feet square, had been split into four. The splits were being timbered *when one of the four quarters of the pillar adjoining* an old goaf crushed out. The deceased were buried and killed. Subsequent inspection showed that the collapse was due to the fact that on three sides of the quarter pillar there were "slips" which could not have been detected beforehand. Inspection and inquiry made

APPENDIX II—*contd.*

Fatal Accidents during the year 1929—contd.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			FALLS OF ROOF AND SIDES—*contd.*			
			(*a*) **Falls of roof**—(*99—deaths*)—*concld.*			
51	3rd December, 1 P.M.	Bararee (No. 2 Division) mine, Jealgora P. O., *Bihar and Orissa.*	East India Coal Co., Ld.	Tejram Chamar, (*m.*), 26, *Coal-carrier.*	Coal	A shot had been fired in the roof coal of a gallery and the roof had been tested and was considered to be safe. A loader entered the place and was about to commence loading when a mass of coal, weighing about 6 cwt unexpectedly fell from a height of 8 feet and killed him instantly. Inspection and inquiry made.
52	8th December, 4-30 A.M.	Alkusa and Kiska mine, Kusunda P. O., Bihar and Orissa.	Kanga & Co.	Munshi Meah, (*m.*), 29, *Coal-cutter.*	Coal	Whilst loading coal which had been blasted down from the corner of a pillar about half an hour previously, a miner was fatally injured by a mass of roof-coal, 1′ 6″ × 1′ 5″ × 10″, which fell unexpectedly from a height of about 28 feet. *Inspection and inquiry made.*
53	10th December, 3 P.M.	Lodna mine, Jharia P. O., Bihar and Orissa.	Lodna Colliery Co. (*1920*), Ld.	Jumna Singh, (*m.*), 36, Abilas Mahto (*m.*), 20; Soomi Mahtwan, (*f.*), 22; Nesoda Mahtwan, (*f*), 43; Khemi Mahtwan, (*f*), 25.	Coal	Four miners and five coal-carriers were working in a gallery, when a mass of roof stone, 20′ × 12′ × 3′—1′ 6″, fell from a concealled "slip" at height of 24 feet. Four of the carriers and one of the miners were killed on the spot and another miner was severely injured. Inspection and inquiry made.
54	10th December, 8-45 P.M.	Jamuria mine, Charanpur P. O., Bengal.	Equitable Coal Co., Ld.	Bachan Singh, (*m.*), 30, *Machine man*	Coal	A man in charge of coal cutting machine was at work in a gallery—7 feet high when he was struck and seriously injured by a wedged shaped mass of coal, 4′ × 1′ 6″ × 1′ 3″, which fell unexpectedly from between two "slips" in the roof. The injuries caused death two weeks latter. Inspection and inquiry made.
55	18th December, 4-45 P.M.	Bawdin mine, Namtu P. O., Burma.	Burma Corporation, Ld.	Jagu Naik, (*m*), 20, *Miner.*	Silver-lead-zinc.	Deceased was killed by a fall of roof in an underground stope. Inspection and inquiry made.

56	19th December, 3-30 A.M.	Charanpur mine, Charanpur P. O., Bengal.	Apcar Collieries, Ld	Dharika Turi, (*m*), 32, *Coal-cutter.*	Coal	In spite of orders to the contrary, two miners working in a depilaring area, in a seam 18 feet thick fired a shot in some overhanging roof coal. The shot proved ineffective. While one of the miners went to find the sirdar, the other entered the place and was killed by a mass of coal, weighing about 12 tons, which fell from the roof. It was presumed that deceased had mounted a ladder, and was attempting to lever down the overhanging coal. Inspection and inquiry made
57	24th December, 6-15 A.M.	East Nandi mine, Toposi P. O., Bengal	East Nandi Coal Co Ld	Bidhan Santal, (*m*), 22, *Coal-cutter.*	Coal	For a natural purpose two miners went through a fence into a gallery in which the roof was insecure. A mass of stone, 25′ × 11′ × 1′, fell from the roof killing one man and seriously injuring the other. Inspection and inquiry made
58	25th December, 2 A. M.	Tirap mine, Margherita P. O. Assam.	Assam Railways and Trading Co., Ld	Bachu Passi, (*m*), 31, *Coal-cutter*	Coal	A miner was cutting coal in an "opening" or chamber, 7 feet high, when the sirdar present heard sounds of movement, and ordered him to leave the "opening". As he was doing so he was struck and seriously injured by a piece of stone which fell from the roof. Pneumonia supervening he died nine days later. Inspection and inquiry made
59	28th December, 6-50 A. M.	Mosaboni mine Ghatsila P. O., Bihar and Orissa	Indian Copper Corporation, Ld	Surja, (*m*), 30; Run Bahadur, (*m*), 30, *Labourers*	Copper	Whilst men were at work in a stope a mass of stone, 15′ × 15′ × 2′, fell from a "slip" in the hanging wall at a height of about 7 feet. Two men were killed and one was injured. Inspection and inquiry made.
60	28th December, 10 30 A. M.	Aldih mine Sitarampur P. O., Bengal	Aldih Coal Co., Ld.	Ratani Bauri, (*f*), 28, *Coal-carrier*	Coal	Whilst a coal-carrier was loading a basket in a gallery she was struck by a piece of coal, 2′ × 1′ 6″ × 6″, which fell from the roof—a height of 8 feet. She sustained injuries which subsequently caused death. Inspection and inquiry made.

(b) Falls of sides—(54 deaths.)

61	1st January, 3 A. M.	Pootkee mine Kusunda P. O., Bihar and Orissa	Eastern Coal Co., Ld	Bhola Dosadh, (*m*), 33, Sabran Dosad, (*m*) 26, *Coal-cutter.*	Coal	Whilst two miners were loading coal in a working gallery, 15′ wide and 14′ high, a slab of coal, 14′ × 8′ × 1′ 6″, fell on them from the side. They were killed instantly. Inspection and inquiry made.
62	1st January, 1-30 P. M.	Upper Jinagora mine, Jharia P. O., Bihar and Orissa.	New East India Press Co., Ld	Surji Mali, (*m*), 22, *Coal cutter*	Coal	A miner although not authorised to fire shots fired a shot in a gallery. Whilst he was dressing down the coal after blasting a mass of coal fell on him from a "slip" in the side. He sustained serious injuries to which he succumbed twelve hours later. Had he waited for the authorised shot-firer to fire the shot the accident might have been avoided. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1929—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of persons killed.	Name of mineral worked.	Cause of accident and remarks.
			FALLS OF ROOF AND SIDES—*contd.*			
			(*b*) Falls of sides—(*54 deaths*)—*contd.*			
63	4th January, 3-30 P. M.	Belam & Simaratari (Prospecting) mine, Rajauli P. O., Bihar and Orissa.	Chattu Ram Darsan Ram.	Tetar Rai, (*m*), 30, *Labourer.*	Mica	Whilst at work in an open excavation deceased was buried under a mass of earth, 12′ × 9′ × 6′, which fell from the side. He received injuries to which he succumbed about an hour later. Inspection and inquiry made.
64	9th January, 4-30 P. M.	Benahir mine, Jharia P. O., Bihar and Orissa.	Standard Coal Co., Ld.	Surja Pasi, (*m*), 50, *Loader.*	Coal	Whilst loading coal underground a miner was struck and fatally injured by a piece of coal, weighing about 80 lb., which fell unexpectedly from a height of 25 feet. Inspection and inquiry made.
65	26th January, 1-30 A. M.	Sitalpur mine, Dishergarh P. O., Bengal.	Bengal Coal Co., Ld.	Daulat Chamar, (*m*), 32, *Coal-cutter*	Coal	Whilst dressing the corner of a reduced pillar of coal in a depillaring section a coal-cutter caused a mass of coal, weighing about 1½ tons, to fall away from a cleat. Some of the coal fell on him from a height of 7 feet, and he sustained a fracture of the spine. He died ten days later. Inspection and inquiry made.
66	29th January, 2 P. M.	Square No. K-32 mine, Kodarma P. O., Bihar and Orissa.	Brindaban Industrial Syndicate, Ld.	Bhatua Turi, (*m*), 21, *Miner.*	Mica	At a time when work in the mine was stopped for a week-end rest day, a miner went through a fence and entered an unused old shaft for the purpose of robbing mica. Whilst he was engaged in extracting a book of mica from the side of the shaft a mass of stone fell. He was struck on the head by a lump of stone, 3′ × 2′ × 1′ 3′, and was killed instantly. Inspection and inquiry made.
67	29th January, 7 P. M.	Hurriladih mine, Jealgora P. O., Bihar and Orissa.	Equitable Coal Co., Ld.	Khepi Mejhian, (*f*), 35, *Coal-carrier.*	Coal	Whilst engaged in carrying coal from a working place, a woman was struck and fatally injured by a mass of coal, 6′ × 4′ × 9″, which fell from the side of a pillar. Inspection and inquiry made.
68	20th January, 8 P. M.	Island (Yemon) mine, Mergui P. O., Burma	Mergui Tin Dredging Co., Ld.	Ali Khat (*m*), 50. *Miner.*	Tin	After undercutting a face, 12 feet high, to a depth of 2 feet a miner who was in charge of a monitor left it playing on the foot of the face whilst he proceeded to within 15 feet of the face to remove stones from the end of a sluicing drain. A mass of earth, 16′ × 12′ × 4′, which fell from the face buried him and he died from suffocation before he could be released. Inspection and inquiry made.

69	31st January, 4 P. M.	Madnadih mine, Kharagdiha P. O., Bihar and Orissa.	D Storrs	Bisu Manjhi, (*m.*), 24, *Labourer.*	Mica	Whilst a workman was engaged in clearing debris front an old quarry, 15 feet deep, a fall of side, 12′ × 10′ × 2′, occurred He was buried under the falling earth and suffocated. Inspection and inquiry made.
70	27th February, 3-30 P. M.	Parbelia mine, Dishergarh P. O., Bihar and Orissa.	Bengal Coal Co., Ld	Takoor Manjhi, (*m.*), 20, *Coal-cutter*	Coal	Near the face of a gallery 10 feet wide × 8 feet high, a miner was resting on the handle of his pick when a slab of coal, 10′ × 3′ × 3′ thick, fell from the side He fell on the handle and sustained internal injuries which caused death four days later Another miner was injured by the falling coal. Inspection and inquiry made.
71	27th February, 3-30 P. M.	Kandivli mine, Kandivli P. O., Bombay	Mugaseth & Sons	Aku Baga, (*m.*), 25, Poshanna Rajnna (*m.*), 38, *Labourers*	Murrum	A fall of side occurred in a cutting, about 7 feet deep, in which persons were working Two were buried by the fall and received fatal injuries Inspection and inquiry made.
72	7th March, 8-15 A. M.	Barari (No. 2 Division) mine, Jealgora P. O., Bihar and Orissa.	East Indian Coal Co., Ltd.	Gaya Ram Kurmi, (*m.*), 55, *Loader.*	Coal	In a seam 28 feet thick a loader was filling a basket with coal, near the foot of a pillar under extraction when a miner wedged a mass of some 1 to 2 cwt. of coal from the side of the pillar This coal fell from a height of 8 feet and struck the loader, who sustained a fractured skull and died eight hours later. Inspection and inquiry made.
73	12th March, 4-30 P. M.	Taungzun mine, Taungzun P. O., Burma.	Osman Mustikhan & Co	Ko Shew Hlaing, (*m.*), 50, *Quarryman*	Stone	Whilst a quarryman was barring stone off the lower part of the face of a quarry, a block of stone, 4′ × 3′ × 2′, rolled on to his left leg, crushing it severely. He died two hours later. Inspection and inquiry made.
74	13th March, about 3-30 P. M.	Karkanee mine, Bansjora P. O., Bihar and Orissa.	Eastern Coal Co., Ltd	Lakhiram Manjhi, (*m.*), 21, *Coal-cutter*	Coal	Deceased was killed by a mass of coal weighing about 8 tons which fell from the side of a pillar. Inspection and inquiry made.
75	15th March, 11-15 P. M.	Bhalgora mine, Jharia P. O., Bihar and Orissa.	Bhalgora Coal Co., Ltd.	Boran Kahar, (*m.*), 35, *Coal-cutter*	Coal	Deceased was dressing down coal from the side of a pillar after blasting when a mass of coal, weighing about 1 cwt., fell on him from a height of four feet He sustained injuries to which he succumed five days later. Inspection and inquiry made
76	13th April 10-30 A. M.	Kalitlan Gurgaon mine, Bhojudih P. O., Bihar and Orissa	K B Seal & Sons	Mugli Surin, (*f.*), 24, *Coal-carrier*	Coal	Deceased was killed by a mass of coal, 10′ × 2′ × 2′, which fell from a "slip" in the side of a pillar at a height of 6 feet. A miner working nearby was injured. Had the side of the pillar been properly dressed down the accident would have been avoided. Inspection and inquiry made

APPENDIX II—*contd.*

Fatal Accidents during the year 1929—*contd.*

Serial number	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of persons killed.	Name of mineral worked.	Cause of accident and remarks.
			FALLS OF ROOF AND SIDES—*contd.*			
			(b) Falls of sides—*(54 deaths)*—*contd.*			
77	23rd April, 3 P. M.	Meenakshisundaram mine, Sydapuram P. O., Madras.	P. V. Raghava Reddi.	Sheik Kasim Saheb, (m.), 22, *Labourer.*	Mica	Deceased was walking along a path leading down into an open excavation when the pathway collapsed. He fell a distance of 12 feet and was fatally injured. Had the sides of the excavation been properly stepped or sloped the accident would have been avoided. Inspection and inquiry made.
78	25th April, 12-15 P. M.	West Gopalichuck mine, Kusunda P. O., Bihar and Orissa.	Gopalichuck Coal Co., Ld.	Gobardhan Kahar, (m.), 35, *Timberman.*	Coal	Seven persons were ascending a shaft 16 feet diameter and 340 feet deep, in a cage, and had reached a point 180 feet from the surface when a mass of stone 1′ 6″ × 1′ 6″ × 6′, fell from a "slip" in the side of the shaft at a depth of 50 feet and, striking the cage, broke through the sheet iron cover. One man was forced beneath the horizontal bars of the cage gate and fell to the bottom of the shaft. Another was struck by the stone and seriously injured. Inspection and inquiry made.
79	30th April, 11 A. M.	Pathrapara mine, Pakaur P. O., Bihar and Orissa.	Shewdhan Tewari	Litua Mochi, (m.), 27, *Stone dresser.*	Stone	Whilst a stone dresser was excavating stone from a quarry 12 feet deep, he was struck by a mass of boulders which fell from the side, a height of 6 feet. He was struck and fatally injured. Inspection and inquiry made.
80	2nd May, 12-30 A. M.	Bhagguidih mine Jharia P. O., Bihar and Orissa.	Bengal-Nagpur Coal Co., Ld.	Pravoo Meah, (m.), 45, *Coal-cutter*	Coal	Whilst working in a depillaring district deceased was struck on the back by some coal weighing about 56 lb. which fell from the side of a pillar. He sustained serious injuries and died six days later. Inspection and inquiry made.
81	3rd May, 12-30 P. M.	Mogok Valley (Enjouk) mine, Mogok P. O., Burma.	Burma Ruby Mines, Ld.	Aik Pyin, (m.), 20, *Tributor.*	Rubbies	In jumping aside to avoid a boulder which he had dislodged from the face of a quarry deceased fell on a sharp pointed rock. He received injuries from which he died two months later. Inspection and inquiry made.

82	7th May, 1 P. M.	Kalatagh mine, Kalabagh P O., Punjab.	Government of India	Ghulam Hassan, (*m*), 35, *Miner.*	Salt .	A miner was sorting salt which had been blasted from the side of a chamber when a piece of salt, weighing about 2 lb. fell from a point 30 feet above and struck him on the head inflicting fatal injuries. Had the place been carefully examined after the blasting the accident might have been avoided. Inspection and inquiry made.
83	12th May, 5-30 A. M.	Amlabad mine, Jealgora P. O., Bihar and Orissa	Eastern Coal Co., Ld.	Dukhan Mahato, (*m*.), 35, *Coal cutter.*	Coal .	A mass of coal weighing about one ton fell from the side of a tramming level and striking deceased, fatally injured him. Inspection and injury made.
84	14th May, 4 P. M.	Chasnalla mine, Pathardih P O. Bihar and Orissa	Chasnalla Coal Co	Joti Bauri, (*m*) 35, *Coal cutter.*	Coal .	Deceased was cutting floor coal in a gallery when a mass of coal, 5′ × 4′ × 3′, fell from between two concealed and converging "slips" at a height of 6 feet. He was killed instantly. Inspection and inquiry made.
85	27th May, 2 P. M.	Angarpathra mine, Katrasgarh P. O., Bihar and Orissa.	Union Coal Co., Ld	Chota Meah, (*m*), 27, *Coal-cutter.*	Coal	Whilst deceased was loading coal from a pillar under extraction he was struck by a mass of coal, weighing about 1 cwt., which fell from the side at a height of 8 feet. He sustained injuries to which he succumbed about a month later. Inspection and inquiry made.
86	31st May, 4-30 A. M.	Sethoa (Sq. 20g) mine, Kodarma P. O., Bihar and Orissa.	S. K. Sahana & Sons	Dilloo Gope, (*m*.), 32, *Miner.*	Mica .	Whilst at work in the bottom of a winze two miners were seriously injured by a mass of stone, 4′ 6″ × 2′ 6″ × 1′ which fell from the side. One of them died eleven days later. Inspection and inquiry made.
87	31st May, 5 P. M.	Chowrasale mine, Dishergarh P. O., Bihar and Orissa	Equitable Coal Co., Ld	Tara Manjhi, (*m*), 30, *Coal-cutter.*	Coal	Whilst a miner was sitting at the face of a pillar, which was in course of extraction, a piece of coal, 3′ × 1′ 6″ × 6″, fell from a height of 3 feet. He received injuries from which he died. Inspection and inquiry made
88	15th June, 12 noon	Damagurria mine, Kulti P. O., Bengal.	Damagurria Coal Co., Ld.	Sitaram Gope, (*m*), 35, *Coal-cutter*	Coal	When a pillar of coal on the edge of a large quarry had been reduced to small dimensions it collapsed and a mass of coal, 67′ × 12′ × 15′, fell away from a "slip" which ran parallel to the face of the quarry. A miner, who was at work on a bench 17′ above the floor of the quarry, fell with the falling coal and was fatally injured. The accident would not have occurred if underground workings had not previously been made. Inspection and inquiry made.
89	16th June, 1-30 A. M.	Benahir mine, Jharia P. O., Bihar and Orissa.	Standard Coal Co., Ld.	Kamahi Korain, (*f*.), 30, *Coal-carrier.*	Coal .	Whilst loading coal a female coal-carrier was struck and killed instantly by a mass of coal weighing about 2¼ tons, which fell from the corner of a pillar which had been loosened by blasting. Had she and her companions remained in their proper working place the accident would not have occurred. Inspection and inquiry made

APPENDIX II—*contd.*

Fatal Accidents during the year 1929—*contd.*

Serial number.	Date and hour of accident	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed	Name of mineral worked	Cause of accident and remarks.
			FALLS OF ROOF AND SIDES—*contd*			
			(b) Falls of sides—*(54 deaths)*—*contd.*			
90	19th June, 2 P.M.	New Kusunda mine, Kusunda P. O., Bihar and Orissa.	New Kusunda Colliery, Ld.	Dami, (*f*), 17, *Coal-carrier.*	Coal	Whilst deceased was loading coal in a quarry at a "face" which had been undercut, a mass of coal and earth, 20′×3′ 6″×9′ fell from the side. She was buried and suffocated. Inspection and inquiry made.
91	28th June, 10 A.M.	Taungpila mine, Tavoy P. O., Burma.	Consolidated Tin Mines of Burma, Ld.	Bale Singh, (*m.*), 35, *Tributor.*	Tin and Wolfram	Whilst engaged in sluicing operations on the side of a hill deceased released a large boulder which rolled down and fatally injured him. Inspection and inquiry made.
92	29th June, 11-30 P. M.	Neamatpur mine, Sitarampur P. O., Bengal.	Equitable Coal Co., Ld.	Sital Manjhi, (*m.*), 50, *Coal-cutter.*	Coal	A miner went through a fence and was *robbling coal from* the corner or pillar when he was struck and killed by a mass of coal weighing about half a ton which fell from a height of 6½ feet. Inspection and inquiry made
93	5th July, 6-30 A. M.	Sripur mine, Kalipahari P. O., Bengal.	Lodna Colliery Co. (1920), Ld.	Ketue Bibi (*f*), 22, *Coal-carrier*	Coal	Whilst a woman was loading a basket with coal in a machine-cut gallery, 6½ feet high, a mass of coal, 5′ × 3′ × 3′, fell from the face near the roof, killing her instantly. Had the over-hanging coal been properly dressed down after blasting the accident would not have occurred. Inspection and inquiry made.
94	7th July, 11 A. M.	Heinda mine, Tavoy P. O., Burma.	Anglo Burma Tin Co., Ld.	Nyan Kin, (*m.*), 35, *Labourer*	Lead Silver	Whilst two miners were erecting a set of timber at the entrance to an adit a fall of earth occurred and one of them was pinned between the post and the side of the adit. He died a few hours later. Inspection and inquiry made.
95	13th July, 7 A. M.	Lodna (4 & 5 pits) mine, Jharia P. O., Bihar and Orissa.	Lodna Colliery Co. (1920), Ld.	Jiton Meah, (*m.*), 32, *Coal cutter.*	Coal	Whilst a miner was dressing the side of a pillar a mass of coal, 4′ × 3′ × 1′ 6″, fell on him from a height of about 6 feet, inflicting fatal injuries. A loader who was working near by was seriously injured. Inspection and inquiry made.
96	15th July, 11 A. M.	Mayangon mine, Taungzon P. O., Burma.	Ibrahim, Contractor	Ram Belas, (*m.*), 20, *Miner.*	Stone	Whilst levering stone from the face of a quarry deceased overbalanced and fell to the bottom of the quarry—a distance of 15 feet. He was struck and killed by a piece of stone which fell with him. Inspection and inquiry made.

97	16th July 1 P.M.	Balapur Hamceha mine, Tumsar Dongri P.O., Central Provinces	Rai Sahib Seth Gowardhandas	Jhunna Gondni, (*f*), 36, *Labourer*	Manganese	Whilst two women were at work in an open excavation, 6 feet deep, a mass of side, 11′ × 4′ × 4′, fell and buried them. One of them was suffocated and the other suffered slight injuries. Inspection and inquiry made
98	30th July, about 4 P.M.	Loyabad mine, Banejra P.O., Bihar and Orissa	Barrakur Coal Co., Ld	Janki Pasi, (*m*), 28, *Coal-cutter*	Coal	A miner was standing on a ladder dressing the side of a pillar when the fall of a piece of coal upset the ladder. He fell to the ground and sustained injuries from which he died two days later. Inspection and inquiry made.
99	27th August 3-30 P.M.	Deoli mine, Dhobargarh P.O., Bihar and Orissa	Deoli Coal Co., Ld	Nakul Bauri, (*m*), 25, *Coal-cutter*	Coal	Whilst "robbing" coal from a pillar at the side of a loading level a miner was fatally injured by a mass of coal weighing about ½ ton, which fell from the side. Inspection and inquiry made
100	25th August 10 A.M.	Kalithan Gorgaon mine, Bhojudih P.O., Bihar and Orissa	K. B. Seal & Sons	Chaitoo Bilaspuri, (*m*), 36, *Coal-cutter.*	Coal	Deceased was cutting coal from the side of a pillar when a mass of coal, 5′ × 3′ × 3′, fell upon him. He sustained injuries to which he succumbed eight days later. Inspection and inquiry made.
101	29th August 9 A.M.	Rajhara mine, Rajhara P.O., Bihar and Orissa	Bengal Coal Co., Ld	Horabansia Nooman ([illegible]), 80, *Clay-carrier*	Fire clay	Whilst working in a section of a quarry in which working had been prohibited deceased was struck and fatally injured by a slab of clay, 2′ × 1′ × 1′, which fell from the side at a height of about 7 feet. Inspection and inquiry made
102	29th August 4 P.M.	Dobari mine, Jharia P.O., Bihar and Orissa	Keshabji Pitamber & Bros	Suku Bauri, (*m*), 35, *Coal cutter*	Coal	Deceased was dressing down some overhanging coal from the side of a pillar when a mass of coal, about 3′ × 3′ × 3′, fell from a height of 12 feet. He was killed on the spot. Inspection and inquiry made
103	17th September 9 A.M.	Kathe (Mogok) mine, Kyatpyin P.O., Burma	Burma Ruby Mines, Ld	Aung Lin, (*m*), 25, *Miner.*	Rubies	In the process of sloping the sides of an open excavation a large fall of earth occurred. Deceased was buried and suffocated. Inspection and inquiry made
104	28th September, 12 noon.	Bawdwin mine, Namtu P.O., Burma	Burma Corporation, Ld	Woo Hsiao Chin, (*m*), 25, *Miner*	Silver-lead-zinc	Whilst deceased was working in an underground stope a mass of ore fell from the face and carried away the stage on which he was standing. He fell a distance of 12 feet, and was killed instantly. Inspection and inquiry made
105	6th October, 6 A.M.	Choto Dhemo mine, Sitarampur P.O., Bengal	Bengal Coal Co., Ld	Ranjit Kole, (*m*), 40, *Coal-cutter*	Coal	Whilst a miner was dressing the side of a pillar in a seam 14 feet thick a mass of coal, 2′ × 1′ × 9′, fell on him from a height of 7 feet and caused injuries from which he died two hours later. Inspection and inquiry made
106	9th October, 1 P.M.	Burra Dhemo mine, Sitarampur P.O., Bengal	Burra Dhemo Coal Co., Ld	Mouzi Mahata, (*m*), 45, *Coal-cutter*	Coal	Whilst a miner was resting in a depillaring area a mass of coal fell off the side of a pillar 6 feet away from him and dislodged a prop 12 feet long. The falling prop struck him and caused minor injuries. He died from tetanus fourteen hours later. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1920—*contd.*

FALLS OF ROOF AND SIDES—*contd.*

(a) Falls of sides—(*54 deaths*)—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
107	11th October, 9-30 A.M.	Kutcheedhana mine, Sausar P. O., Central Provinces.	Indian Manganese Co., Ld.	Vaila Iddar, (*m.*), 30, *Driller.*	Manganese.	In a level 12 feet high a driller was holding candle for a shotfirer who was dressing down some loose ore from the side when a small piece of ore fell and extinguished the candle. In trying to recover the candle the driller was struck and killed instantly by a piece of ore, 3′ × 1′ × 6″, which fell from a height of 5 feet. Inspection and inquiry made.
106	20th October, 2-30 A.M.	Upper Jinagora mine, Jharia P. O., Bihar and Orissa.	New East India Press Co., Ld.	Jagan Rai, (*m.*), 35, *Coal-cutter*	Coal	Deceased was cutting floor coal in a gallery when a mass of coal, 12′ × 10′ × 12′, fell on him from a "*slip*" at a height of 8 feet in the side of an adjoining pillar. He was killed instantly. Inspection and inquiry made.
109	4th November, 1 P.M.	Hurriladih mine, Jealgora P. O., Bihar and Orissa.	Equitable Coal Co., Ld.	Sukhram Kuri, (*m.*), 36, *Coal-cutter.*	Coal	A miner, after firing a shot in the side of a pillar of coal, returned to inspect the place, when a mass of coal, weighing about 1 ton, fell upon him from the side of the pillar. *He was fatally injured.* Inspection and inquiry made.
110	7th December, 10 P.M.	Bararee mine, Jealgora P. O., Bihar and Orissa.	East Indian Coal Co., Ld.	Saroda Baurin, (*f.*), 40, *Coal-carrier.*	Coal	A woman passed through a fence and entered a gallery in which work had been prohibited. Whilst loading coal there she was fatally injured by a mass of coal, 2′ 3″ × 1′ 3″ × 10″, that fell on her from the side at a height of about 10 feet. Inspection and inquiry made.
111	12th December, 0-15 A.M.	Benahir mine, Jharia P. O., Bihar and Orissa.	Standard Coal Co., Ld.	Ramabatar Pashi, (*m.*), 30, *Coal-cutter.*	Coal	Whilst levering down the fractured corner of a pillar of coal, a miner was killed by a mass of about 2 tons of coal falling on him from the side at a height of about 7 feet. Inspection and *inquiry made.*
112	19th December, 1-30 P.M.	Benahir mine, Jharia P. O., Bihar and Orissa.	Standard Coal Co., Ld.	Romadhin Chamar, (*m.*), 40, *Coal-cutter.*	Coal	After blasting had been done a *miner* was testing the fractured side of a pillar when a piece of coal, 2′ × 2′ × 2′, slid down the testing pole and struck him so violently that he died within half an hour. Inspection and inquiry made.

IN SHAFTS (FALLING DOWN SHAFTS)—(*8 deaths*).

113	2nd January, 6-40 P. M.	Baran (No 1 Division) mine, Jealgora P. O., Bihar and Orissa.	East Indian Coal Co., Ld.	Sukdeo Joswara, (*m*), 27, *Trammer.*	Coal	For a purpose unknown deceased left his appointed working place in an upper seam, and, after passing through two fences, fell to the bottom of a shaft—a distance of 85 feet He sustained injuries to which he succumbed eight hours later. Inspection and inquiry made.
114	5th January 10 P. M.	Rampur mine, Rampur Colliery P. O. Bihar and Orissa	Hingir Rampur Coal Co., Ld.	Bhukhal Rout, (*m*), 35, Cheroo Rout, (*m*), 30, *Trolleymen*	Coal	At the top of a shaft 115 feet deep two trolleymen were pushing a loaded tub off the trolley when the latter moved forward a distance of about 18 inches, thus uncovering the top of the shaft Both men fell to the bottom of the shaft and were killed instantly 'Dogs' and catches had been provided. If they had been properly set the accident would have been avoided Inspection and inquiry made
115	24th January, 11 A. M.	Ghusick mine, Kalipahari P. O., Bengal.	Ghusick Coal Co	Abinash Adhikari, (*m*), 25, *Assistant fitter.*	Coal	Two fitters were testing a sinking pump suspended in a waterlogged shaft when the joint of a steam pipe burst. One of the men was scalded and fell into the water In attempting to rescue him the other man fell into the water and was drowned Inspection and inquiry made
116	6th April 8 A. M.	Mawson (Bodwinja) mine, Heho P. O., Burma	Steel Brothers & Co., Ld	Siari Lall, (*m*), 33, *Miner*	Lead Silver	While descending a ladderway in a shaft 100 feet deep deceased fell from about half way down and was killed. Inspection and inquiry made.
117	11th July, 7 A. M.	West Gopalichuck mine, Kusunda P. O. Bihar and Orissa	Gopalichuck Coal Co., Ld.	Rahamali, (*m*) 22, *Labourer*	Coal	A labourer was at work in an inset 274 feet above the bottom of a shaft There was a platform from which a plank had been removed on the previous day Failing to notice the hole in the platform he fell to the bottom of the shaft and was killed The plank should have been replaced or access to the platform prevented by fencing. Inspection and inquiry made
118	18th July, 3 A. M.	Monoharbahal mine, Asansol P. O., Bengal	Chandanmull Indrakumar	Fakir Dosadh (*m*) 50, *Banksman*	Coal	The banksman at the top of a shaft failed to put the keps in position for landing the cage The cage therefore descended a distance of some 8 feet before the engineman could stop it. The banksman who had commenced to push a loaded tub out of the cage before the cage had been lowered on to the keps fell to the bottom of the shaft 360 feet below and was killed instantly. The banksman should not have attempted to withdraw the tub until the cage had been brought to rest on the keps Had the keps been weighted so that they fell into position automatically the accident would have been avoided. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1929—*contd.*

Serial number	Date and *hour of* accident.	Name and situation of mine.	Name of owner	Name, sex, age and occupation of person killed.	Name of mineral worked	Cause of accident and remarks
			IN SHAFTS (FALLING DOWN SHAFTS)—*contd.*			
119	29th December, 3 P. M.	Petphulawa mine, Tisri P. O., Bihar and Orissa.	F. F. Chrestien & Co., Ld.	Bhatu Rai, (*m*), 21, *Unskilled miner*	Mica	Whilst climbing down a ladderway in a shaft, 60 feet deep, deceased fell to the bottom of the shaft and was killed *instantly*. *Inspection and inquiry made.*
			IN SHAFTS (THINGS FALLING DOWN SHAFTS)—*(2 deaths).*			
120	17th April, 8-45 P. M.	Kendwadih mine, Kusunda P. O., Bihar and Orissa.	East Indian Coal Co., Ld.	Bunshi Turi, (*m*), 34, *Trollyman.*	Coal	A trollyman was in the act of pulling out an empty tub from a cage standing at the bottom of shaft, 238 feet deep, when he was struck on the head and killed by a piece of coal, weighing *about* 3 lb., which had fallen from the surface. Inspection and inquiry made.
121	25th September, 5 A. M.	Sripur mine, Kalipahari P. O., Bengal.	Lodna Colliery Co. (1920), Ld.	Tara Singh Manjhi, (*m*.), 25, *Shaftman*	Coal	After a guide rope had broken at the bottom of a shaft 975 feet deep, the broken end was lifted to the surface by one of the cages, thus leaving a loop suspended in the shaft. At about mid-shaft a piece of bunton, 8' × 1' × 4", was struck and dislodged by the loop. A shaftman crossing the bottom of the shaft at the time was struck by the falling bunton and fatally injured. Inspection and inquiry made.
			IN SHAFTS (MISCELLANEOUS)—*(3 deaths.)*			
123	24th February, 8-30 A. M.	Dhobidih mine, Giridih P. O., Bihar and Orissa.	Bengal Giridih Coal Co., Ld.	Tufani Meah, (*m*), 42, *Onsetter.*	Coal	Whilst attending to an injector at the bottom of a shaft an onsetter was crushed beneath the descending cage and killed. Inspection and inquiry made.
123	7th July, 10 A. M.	Silpur mine, Charanpur P. O., Bengal.	Katras-Jherriah Coal Co., Ld	Gariba Dhobi, (*m*), 35, *Coal-cutter.*	Coal	A miner attempted to cross the bottom of a shaft while the cages were in motion. He was struck by the descending cage and sustained *serious injuries* from which he died one month later. Deceased should have used the bypass. Inspection and inquiry made.

124	13th July, About 9-30 P.M.	Loyabad mine, Bansjora P. O., Bihar and Orissa.	Burrakur Coal Co., Ld.	Mahendi Dome, (*m*.), 28, *Trammer*	Coal	Whilst waiting at the bottom of a shaft for the cage to descend deceased put his head beyond the protection boards in order to look up the shaft. The descending cage struck him on the head and he sustained an injury which later proved fatal. Inspection and inquiry made.

SUFFOCATION BY GASES—(*2 deaths.*)

125	11th August 2 A.M.	Bhulanbararee mine, Patharddih P. O., Bihar and Orissa.	Bhulanbararee Coal Co., Ld.	Nitya Gopal Singh, (*m*.), 39, *Overman*. Kedar Bauri, (*m*.), 59, *Sirdar*.	Coal	The deceased were inspecting the stopping surrounding a fire area when they were overcome by an outburst of gas from the fire area. Inspection and inquiry made.

BY EXPLOSIVES—(*9 deaths.*)

126	23rd February, 12 Noon	Wagon North mine, Tavoy P. O., Burma.	Consolidated Tin Mines of Burma, Ld.	Jung Bahadur, (*m*.), 35, *Labourer*	Tin ore	In attempting to withdraw a mis-fired charge of 2¼ oz of gelignite from a vertical hole, 15 inches deep, a drill became jammed in the hole. A labourer who attempted to loosen the drill by striking it with a hammer was fatally injured when the charge exploded. Inspection and inquiry made.
127	20th April, 11 A.M.	Mokpalin mine, Mokpalin Quarries P. O., Burma.	Government of Burma, (Public Works Department).	Ramayah, (*m*.), 50, *Labourer*.	Stone	While blasting was going on deceased passed the danger signal and was killed by a piece of stone projected a distance of 890 feet from the place where the shot was fired. Inspection and inquiry made.
128	20th July, 9-30 A.M.	Barari (No. 2 Division) mine, Jealgora P. O., Bihar and Orissa.	East Indian Coal Co., Ld.	Jagru Chamar, (*m*.), 36, *Coal-cutter*	Coal	Deceased was drying gunpowder in a tin over a fire on the verandah of a dwelling house when the powder became ignited. He was seriously burnt and died five days later. Inspection and inquiry made.
129	22nd July, 2-30 A.M.	Datla mine, Junnordeo P. O., Central Provinces.	Amalgamated Coal-fields, Ld.	Dhonkal Lodhe, (*m*.), 27, *Coal-cutter*	Coal	Although warned by the shot-firer deceased entered a gallery before the third of three shots had exploded. On his reaching the gallery the third shot exploded and he was fatally injured. Inspection and inquiry made.
130	31st July, 11-45 A.M.	Kankanee mine, Bansjora P. O., Bihar and Orissa.	Eastern Coal Co., Ld.	Bhatu Meah, (*m*.), 35; Budhan Turi, (*m*.), 30, *Sinkers*.	Coal	Whilst nine men were at work in a sinking shaft an explosion took place and two of the men were killed and two seriously injured. It was presumed that one of the men had drilled into a mis-fired shot. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1929—*contd.*

Serial number	Date and hour of accident	Name and situation of mine.	Name of owner	Name, sex, age and occupation of person killed.	Name of mineral worked	Cause of accident and remarks
				HAULAGE—contd.		
143	12th April, 6 A.M.	Bawdwin mine, Namtu P. O., Burma.	Burma Corporation Ld.	Nanu Ram, (*m*), 42, *Brakesman*.	Silver-lead-zinc	Whilst a train of a loaded cars and empty trolleys was in motion the brakesman fell off and was run over, receiving injuries from which he died seven months later. Had deceased obeyed the standing instruction to ride on the last *trolley in the train* the accident would not have occurred. Inspection and inquiry made.
144	24th April, 2-30 P.M.	Burra Dhemo mine, Sitarampur P. O., Bengal.	Burra Dhemo Coal Co., Ld.	Ram Kishore Singh, (*m*), 43, *Labourer*.	Coal	A number of empty tubs *running uncontrolled* on an *underground tram line bumped into loaded tubs* standing in a siding. A man who was assisting to erect a buffer in the siding was crushed between the buffer and the tubs. He was seriously injured and died a month later. Inspection *and inquiry made*
145	24th April, 6-15 P.M.	Jamuria mine, Charanpur P. O., Bengal.	Equitable Coal Co. Ld.	Thanu Dome, (*m*), 23, *Trammer*	Coal	Whilst a trammer was riding on a train of tubs in an underground haulage road the tubs were derailed He was run *over by the rear tub. He died from tetanus eleven days* later. Inspection and inquiry made.
146	25th April, about 6-20 P.M.	Loyabad mine, Bansjora P. O., Bihar and Orissa.	Burrakur Coal Co., Ld.	Kali Rai, (*m*), 24, *Trammer*.	Coal	Whilst detaching a haulage rope form a train of loaded tubs deceased fell down and was *run over. He died from his* injuries a few hours later Inspection and inquiry made.
147	6th May, 5 A.M.	Bejdih mine, Sunderchak P. O., Bengal.	Equitable Coal Co., Ld.	Habu Baura, (*m*.), 26, *Trammer*.	Coal	Whilst a train of six full tubs was being lowered on a haulage rope from the top of a haulage *road to a shaft level, a trammer* who was sleeping on the *track was run over and fatally* injured. Inspection and inquiry made
148	16th May, 1-30 A.M.	Amlabad mine Jealgora P. O., Bihar and Orissa.	Eastern Coal Co., Ld.	Chetu Gowala, (*m*), 18, *Trolleyman*.	Coal	Deceased was riding on a train of tubs without *permission* and, in attemping to dismount, was run over and fatally injured. Inpection and inquiry made.
149	5th June, 7 P.M.	Ramnagar Mine, Kulti P. O., Bengal	Bengal Iron Co., Ld	Jugal Prasad Lall, (*m*), 38, *Sirdar*.	Coal	Whilst a train of 20 loaded tubs was being hauled up a slope of 1 in 7 a coupling chain broke and 18 of the tubs ran wild The two tubs which remained attached to the rope became derailed and struck a sirdar who was walking along the haulage road He succumbed to his injuries seventeen hours later. Inspection and inquiry made.

150	12th June, 8-10 A.M.	Namdang mine, Margherita P. O., Assam	Assam Railways and Trading Co., Ld.	Karna Bahadur Chetri, (*m*), 28, *Coal-filler.*	Coal	In spite of being warned three miners travelled along a haulage road while a train of loaded tubs was being hauled out. One of them was run over and killed instantly. Inspection and inquiry made
151	13th June, 5 20 A M	Argada mine, Sirka P O Bihar and Orissa	Bengal Nagpur Railway Co, Ld	Namdhary Dosadh, (*m*), 45, *Trammer*	Coal	Two trammers were pushing a loaded tub on a tramline in a quarry. At a crossing the tub was struck by a train of empty tubs which was running uncontrolled. One of the men was killed instantly by falling a distance of 12 feet to a lower bench of the quarry. Inspection and inquiry made.
152	19th June, 12 noon	Burra -Golai mine, Margharita P O, Assam	Assam Railways and Trading Co Ld	Ramdhoni Passi, (*m*), 35, *Timberman*	Coal	A train of empty tubs ran off the rails at a place on a haulage road where a party of men had been erecting timber. One of the men was struck by the tubs and fatally injured. The sirdar in charge of the party had repeatedly warned the man to go into a manhole, but he had disregarded the warning. Inspection and inquiry made.
153	27th June 5-30 A.M.	Giridih P O., Bihar and Orissa.	East Indian Railway	Thutha Chamar, (*m*) 45 *Coal-cutter*	Coal	Whilst a miner was moving an empty tub on a level haulage road another tub was caught by a socket on the haulage rope and moved forward. The two tubs collided and deceased was knocked down and seriously injured. He died nine days later. Inspection and inquiry made
154	2nd July 9 40 A M	Garlham mine, Chipurupalle P. O., Madras	Vizianagram Mining Co, Ld	Thaddi Sannayasi, (*m*), 45, *Labourer.*	Coal	Whilst three empty tubs were being lowered down a surface haulage incline dipping at 1 in 3 the front tub became uncoupled and ran uncontrolled for a distance of about 1,000 feet. A workman who was repairing the track at the foot of the incline was struck by the runaway tub and sustained injuries from which he died two days afterwards. Inspection and inquiry made
155	10th July 8 P M	New Kendah mine, Toposi P. O., Bengal.	New Kendah Coal Co, Ld.	Phulmoni Korin, (*f*), 19 *Coal -carrier*	Coal	Whilst loaded tubs were being marshalled at an inbye siding a full tub with one wheel spragged ran away down a road dipping at 1 in 15 and struck an empty tub which a coal-carrier was tramming along an outbye siding. She was struck by the tub and received injuries from which she died thirteen hours later. Had a stop-block been provided on the loaded tub line of the inbye siding or a check catch on the empty tub line of the outbye siding the accident would have been avoided. Inspection and inquiry made.
156	13th July, 12 noon	Argada mine, Ramgarh P. O., Bihar and Orissa	Bengal Nagpur Railway Co, Ld	Radha Syam Shao, (*m*), 30, *Trammer*	Coal	Whilst a trammer was placing sprags in a tub which was being re-railed the body of the tub swung over and, striking him on the back injured him so severely that he died five days later. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1929—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine	Name of owner.	Name, sex, age and occupation of person killed	Name of mineral worked.	Cause of accident and remarks
				HAULAGE—*contd.*		
157	13th September, 6 A. M.	Jogta mine, Sijua P. O., Bihar and Orissa.	Agabeg Bros.	Badia Chamar, (*m*), 23, *Trolleyman.*	Coal	Whilst a train of 5 loaded tubs was being raised from an underground level a steam joint at the haulage engine blew out. The engineman lost control of the engine and the tubs ran back about 20 feet. Deceased was fatally injured by coal thrown from the tubs when they were derailed by the drag. Inspection and inquiry made
158	18th September, 9 P. M.	Newton Chickli mine, Parasia P. O., Central Provinces	Newton Chickli Collieries, Ld.	Sambati Telin, (*f.*), 25, *Coal-carrier.*	Coal	Whilst a coal carrier was loading a tub on a tramline *dipping at 1 in 10 another tub which was standing* at a distance of 15 feet gravitated towards her. She was struck and fatally injured by the moving tub. Inspection and inquiry made
159	1st October, 9 30 A. M.	Bara-Golai mine, Margherita P. O., Assam.	Assam Railways and Trading Co., Ld.	Mathura Kurmi, (*m*), 40, *Trammer.*	Coal	Whilst a train of four empty tubs was being hauled out of a siding by a pony, the last tub of the train became derailed. A trammer who had been helping to couple the tubs was crushed between the derailed tub and a loaded tub which was standing on an adjacent line. He was fatally *injured. Inspection and inquiry made.*
160	2nd October, 9-15 P. M.	Datla mine, Junnordeo P. O., Central Provinces	Amalgamated Coal-fields, Ld.	Jirauwa Kolam, (*f.*), 21, *Coal carrier.*	Coal	Whilst a train of six empty tubs was being lowered down a haulage incline the haulage rope broke and the tubs " ran wild ". A coal carrier who was walking up the incline was struck by one of the tubs and fatally injured. Deceased should not have been walking on the haulage incline, but should have used the travelling road provided. Inspection and inquiry made.
161	30th October, 8 P. M.	West Jambad mine, Chora P. O., Bengal.	West Jambad Colliery, Ld.	Baru Bauri, (*m.*), 37, *Trammer.*	Coal	A trammer was run over and fatally injured by a loaded tub which was gravitating along a shaft level having a slight gradient in favour of the load. From the position in which he was found he appears to have been sleeping or lying on the track. Inspection and inquiry made.

162	14th December, 8-15 P. M.	Girimint mine, Charanpur P. O., Bengal.	Girimint Coal Co., Ld.	Kalidas Bhattacharjee, (m), 26, *Overman.*	Coal	An empty tub was being pushed along a shaft level, 9 feet wide, and, to allow it to pass, a sirdar stepped on to the loaded tub track. He was crushed between a stationary tub and another tub which was slowly gravitating along the road. Pneumonia supervened and he died eight days afterwards. If between the tracks there had been sufficient space for a man to pass the accident would have been avoided. Inspection and inquiry made.
163	17th December 3-30 P. M.	Deoli mine, Dishergarh P. O. Bihar and Orissa.	Deoli Coal Co., Ld.	Bilas Bauri, (m), 30, *Trammer.*	Coal	While attempting to replace a moving haulage rope which had slipped off a pulley a trammer sustained slight cuts on the fingers. He refused proper medical attention and tetanus supervening died ten days later. Inspection and inquiry made.
164	21st December, 5 P. M.	Ningah mine, Kalipahari P. O. Bengal	Lodna Colliery Co. (1920), Ld.	Nunoo Meah, (m), 22, *Loader*	Coal	Three miners were pushing an empty tub up a gradient of 1 in 20 when the tub bumped into some stationary tubs which were held in position by coal slack thrown on the rails. Two of the stationary tubs and the tub which the miners had been pushing got out of control and ran down the slope. One of three miners who were pushing another tub was struck and fatally injured. Had the proper sprags provided been used to secure the stationary tubs the accident would not have occurred. Inspection and inquiry made.
			UNDERGROUND MACHINERY—(*3 deaths*)			
165	1st June, 9-15 A. M.	Ballarpur mine, Ballarpur P. O. Central Provinces	Sir K. C. Daga & Sir M. B. Dadabhoy	Tukia Gauro, (m), 23, *Engineman*	Coal	An engineman was found lying dead under the ingoing rope pulley of an endless haulage engine. It was presumed that he had been examining this part of the engine when his hand was caught by the rope and his body was dragged under the pulley. Inspection and inquiry made.
166	23rd July, 5 P. M.	Bhatdee mine, Mohuda P. O., Bihar and Orissa	Bengal Bhatdee Coal Co., Ld.	Kalu Meah, (m), 23, *Machineman*	Coal	Whilst holding the stay prop of a chain coal-cutting machine deceased fell upon the jib and sustained serious injuries to which he succumbed four hours later. Inspection and inquiry made.
167	31st August 12 Midnight	Parbelia mine Dishergarh P. O., Bihar and Orissa.	Bengal Coal Co., Ld.	Suki Korani, (f.) 45, *Coal-carrier.*	Coal	Unnoticed by the machine crew a coal-carrier, for some reason unknown, entered a gallery where a coal-cutter was at work. She fell on the moving chain and was fatally injured. Inspection and inquiry made.
			SUNDRIES UNDERGROUND—(*18 deaths*)			
168	5th January, 10 A. M.	Pah Chaung mine, Palaw P. O., Burma.	J. I. Milne	Bharata Bahak, (m), 25 *Miner.*	Tin	Whilst a miner was making a drainage sump in an excavation, 6 feet deep and 4 feet wide, formed by the extraction, of a tin lode two miners who were working 6 feet away from him caused a mass of ground weighing about 3 cwt. to fall from the side. Hearing the ground falling he became afraid and jumping forward he slipped and fell striking his head on the point of the pick which he was using. He was killed instantly. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1929—*contd.*

Serial number	Date and hour of accident.	Name and situation of mine	Name of owner	Name, sex, age and occupation of person killed	Name of mineral worked	Cause of accident and remarks
			SUNDRIES UNDERGROUND—*contd.*			
169	29th January, 9 A.M.	Hsakhao mine, Namtu P. O. Burma.	Burma Corporation Ld.	Li Kwe Sai, (*m*), 18, *Quarryman*	Limestone	Two quarrymen were standing on a bench, 4 feet wide and 10 feet above the floor of a quarry, barring a mass of limestone off the face. The mass gave way unexpectedly and, overbalancing, they fell down the face and were severely injured. One of them died five days later. Inspection and inquiry made.
170	4th February, 10 P.M.	Bawdin mine, Namtu P. O., Burma.	Burma Corporation, Ld	Kalu Chand, (*m*), 27, *Miner*.	Silver-lead-zinc.	Whilst a miner was leaving his stope and entering a ladder-way his light went out In attempting to climb up the ladderway in darkness to a level 40 feet above he fell from a ladder to a platform 15 feet below, and sustained injuries from which he died twenty-six hours later Inspection and inquiry made.
171	25th February, 3 P.M.	Naung tha khaw mine, Namtu P. O., Burma.	Burma Corporation, Ld.	Chi Fa Yong. (*m*.), 22, *Labourer*	Iron ore	Whilst a labourer was carrying iron ore to a screen up an inclined ramp 18 feet long and 7 feet high one of the posts supporting the ramp broke. He jumped to the ground from a height of 5 feet, but was caught and severely injured by the falling ramp A month later he died Inspection and inquiry made.
172	24th March, 7-30 A.M.	Bararee mine, Jealgora P. O., Bihar and Orissa.	East Indian Coal Co., Ld.	Proshadi Berhai, (*m*), 20; Golap Berhai, (*m*), 30; Berhan Berhai, (*m*), 40; *Timbermen*.	Coal	In a depillaring section of a seam 28 feet thick, which had been isolated by stoppings in some of which there were "passage holes" an area of roof, measuring 250 feet × 150 feet, collapsed Some two and a half hours before the collapse all workers had been withdrawn but some of them were in the vicinity of one of the "passage holes" and in the direct line of the air-blast produced Of these two were killed on the spot, and a third sustained injuries to which he succumbed two days later. Four other persons sustained serious injuries Had they remained behind the stoppings and out of the direct line of the air-blast the accident would have been avoided Inspection and inquiry made.

173	4th May, 12 noon	Pyu mine, Pyu, P. O., Burma.	Ibrahim, Contractor.	Mg. Pho Yin, (m). 40, *Quarryman*	Stone	Whilst a quarryman was using a steel bar to remove stone from the face of a stone quarry he fell from a height of 30 feet to the floor of the quarry He sustained injuries from which he died three and a half hours later. He was not secured to the safety rope which was provided. Inspection and inquiry made.
174	14th May, 5 P M	South Bulliari mine Kusunda P. O., Bihar and Orissa.	East Indian Coal Co., Ld	Tohal Kahar, (m), 35, *Coal-cutter.*	Coal	Whilst trying to avoid an empty tub that was being trammed, a miner fell into a drain adjoining the tram line and sustained serious injuries He contracted pneumonia and died three weeks later. Inspection and inquiry made.
175	16th May, 10-30 A.M	Lodna mine Jharia P. O Bihar and Orissa	Lodna Colliery Co (1920), Ld.	Meghan Mahato, (m). 46, *Propping Mistry*	Coal	Deceased was assisting to set a prop near the edge of a goaf when a small piece of stone rolled down from the goaf and cut his leg. He died of tetanus two days later. Inspection and inquiry made
176	27th May 9 30 A M	Gua mine Gua P. O., Bihar and Orissa	Indian Iron and Steel Co., Ld	Nela Bilaspuri, (m), 24, *Miner.*	Iron ore	A miner at work on the upper edge of quarry over balanced and rolled down a slope of 40 degrees for a distance of 15 feet. In falling he struck his head against a boulder and sustained fatal injuries Inspection and inquiry made.
177	13th July 11 A M	Gua mine, Gua P O Bihar and Orissa	Indian Iron & Steel Co., Ld	Mukta Kui, (f), 18, *Load*	Iron Ore	Whilst deceased was at work at the foot of a slope in a quarry, a large boulder, rolled down from an excavation some 20 feet above. She was struck by the boulder and sustained injuries which caused death twenty one days later Inspection and inquiry made
178	27th July 1 A M	Bararee mine Jealgora P O, Bihar and Orissa	East Indian Coal Co Ld	Dashi Dosadhin (f), 36, *Coal-carrier.*	Coal	In the process of setting a prop 25 feet in length the prop struck another prop and knocked it out The falling prop struck deceased and fatally injured her Inspection and inquiry made.
179	25th August 4-30 P M	Serampur mine Giridih P O Bihar and Orissa	East Indian Railway	Gendia Turin, (f), 22, *Coal-carrier*	Coal	Whilst deceased was working in a gallery 18 feet high a prop, set as a support for the roof, fell and struck her. She was fatally injured Inspection and inquiry made
180	4th November 11 A M.	Bhangia Gurosote mine Japla P O, Bihar and Orissa,	Sone Valley Portland Cement Co., Ld	Joykaram Rajwar, (m), 41, *Miner.*	Limestone	Whilst deceased was barring down loose stone from the edge of a bench in a quarry his bar slipped and he fell a distance of 30 feet sustaining a fracture of the skull to which he succumbed within an hour. Inspection and inquiry made.
181	1st December, 0-30 A M.	Ywa-Dan Swe (Yinnyein) mine, Yinnyein P O., Burma.	Ibrahim Contractor	Bhmo Ooryia, (m), 26, *Miner*	Stone	Whilst levering loose rock from the face of a quarry deceased overbalanced and fell to the bottom of the quarry—a distance of 30 feet. He received injuries from which he died six hours later. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1929—*contd.*

Serial Number.	Date and hour of accident.	Name and situation of mine.	Name of owner	Name, sex, age and occupation of person killed	Name of mineral worked	Cause of accident and remarks.
			ON SURFACE RAILWAYS AND TRAMWAYS BELONGING TO THE MINE—*contd.*			
195	28th September, 4 30 A.M.	Borjan and Kongon mine, Kongnyu P. O., Assam.	Narita Coal Co., Ld.	Arsad Ali, (*m*), 30, *Trammer.*	Coal	A trammer was riding on the buffer of a loaded tub which was gravitating on a surface tram line dipping at 1 in 12. While crossing a bridge over a small stream the tub became derailed and he was thrown off He fell to the bed of the stream 28—feet below—and was killed instantly. Inspection and inquiry made
196	17th October, 5 P.M.	Chickla mine, Tumsar Dongri P. O., Central Provinces.	Central Provinces Manganese Ore Co., Ld.	Mallo, (*f*), 35, *Miner.*	Manganese Ore.	A woman was engaged in stacking ore near a surface tram line As she was walking on the line a tub struck her, inflicting injuries which subsequently proved fatal It appears that the woman was deaf and thus failed to avail herself of the warning given. Inspection and inquiry made.
197	19th October, 8 P.M.	Bokaro mine, Bokaro P O., Bihar and Orissa.	East Indian and Bengal Nagpur Railways	Topi Kurmin, (*f*), 18, *Labourer.*	Coal	A train of empty tubs gravitating on a surface tram line struck a woman who was crossing the tram line. She sustained injuries which proved fatal. Inspection and inquiry made
198	28th October, 1 P.M.	Basadera mine, Ghatsila P. O., Bihar and Orissa.	East India Manganese Co., Ld.	Tepo Sonthal, (*m*), 25, *Stone cutting sardar.*	Manganese.	Seven persons were illegally riding on a trolley down a steep haulage incline when the trolley got out of control and collided with an empty truck. Deceased was fatally injured and two of the others were slightly injured. Inspection and inquiry made.
			BY ELECTRICITY—*(2 deaths).*			
199	21st September, about 7-30 A.M.	Kendwadih mine, Kusunda P. O., Bihar and Orissa.	East Indian Coal Co., Ld	Khoiruddin, (*m*), 40, *Labourer.*	Coal	Deceased climbed up a post carrying line conductors at 2,200 volts a.c. and was electrocuted. Inspection and inquiry made.
200	16th November, between 8 and 9 P.M.	Kuardi mine, Kalipahari P. O., Bengal.	Kuardi Coal Co., Ld.	Moti Bauri, (*m*), 32, *Coal-cutter.*	Coal	An extensive fall of roof damaged a rubber insulated cable carrying current at 250 volts d.c., and caused an earthwire to come in contact with the live core The wire broke and a miner, who was passing nearby, became entangled in it and was electrocuted. Inspection and inquiry made.

MISCELLANEOUS ON SURFACE—(*12 deaths*).

201	16th February, 2 30 P M	Heinze Basin mine, Kanbauk P O., Burma	Northern Tavoy Tin Dredging Corporation Ld.	Kasu (*m*), 30, *Stoker on producer gas plant*	Tin Ore	During the trials of a new dredge one of the cylinders of a 4-cylinder 400 H P gas engine was misfiring and some of the unburnt gas escaped through a leaky expansion joint in the exhaust pipe into a compartment in the pontoon. Two men who were close to a manhole in the deck were severely burned when the accumulation of unburnt gas in the compartment was ignited by a back-fire in the exhaust pipe One of them died a few hours afterwards. Inspection and inquiry made
202	11th April 10-30 A M	Kandivli mine, Kandivli P. O., Bombay.	Mngaseth & Sons	Tippamma, (*f*) 20 *Labourer.*	Murrum	A women carrying a loaded basket stumbled, and the contents of the basket falling on her killed her. Inspection and inquiry made
203	12th June 6-30 P M	Gua mine, Gua P O, Bihar and Orissa.	Indian Iron & Steel Co Ld	Mongal Kol, (*m*) 25, *Labourer.*	Iron Ore	Deceased went up a ropeway trestle to ease a jammed pulley. The crowbar which he was using was struck by a loaded carrier, and this caused the supporting beam to break. He was thrown to the ground, 28 feet below, and killed instantly. Inspection and inquiry made
204	11th July, 8 A M.	Bhankhap mine, Rajauli P. O, Bihar and Orissa.	Ganpat Roy Kedernath.	Barni Ghatwarin, (*f*). 12	Mica	Whilst collecting mica from a waste dump on the hill side deceased was buried and killed by a fall of debris. Inspection and inquiry made
205	11th July, 6 P M	Parledih mine Dishergarh P O Bihar and Orissa	Bengal Coal Co, Ld	Somi Mejhian, (*f*), 16, *Wagon loader.*	Coal	Whilst a wagon loader was getting down from a wharf 4 feet high on to a railway siding, she slipped and her head struck the buffer of a stationary wagon. She was severely injured and died ten minutes later. Inspection and inquiry made.
206	27th July 12 A M	Taungpila mine Tavoy P O, Burma.	Consolidated Tin Mines of Burma Ld	Maung Po Swey, (*m*), 45, *Labourer*	Tin and wolfram	Deceased was struck and killed by a tree which he had felled. Inspection and inquiry made.
207	9th August, 3 P M.	Taungpila mine, Tavoy P. O, Burma.	Consolidated Tin Mines of Burma Ld	Lee Yin, (*m*), 24, *Labourer.*	Do	After a log had been sawn into two pieces one of the pieces rolled down into an open excavation and struck two miners, one of whom died four days later Inspection and inquiry made.
208	11th September, 3 P. M.	Jamadoba mine, Jealgora P. O., Bihar and Orissa.	Tata Iron and Steel Co., Ld	Sundri Mejhian, (*f*), 15 *Labourer.*	Coal	Deceased was carrying a bag filled with earth on her head when she slipped and fell backwards. She sustained injuries to which she succumbed on the following day. Inspection and inquiry made
209	25th September, 12 30 P M	Heinze Basin mine, Kanbauk P O, Burma.	Northern Tavoy Tin Dredging Ld.	Gyoba Ali, (*m*), 22, *Jig Greaser.*	Tin.	Whilst greasing the rollers on the bucket ladder of a dredge deceased overbalanced and fell on to the deck below, breaking his leg. He refused proper medical treatment and, gangrene setting in, died thirteen days later. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1929—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner	Name, sex, age and occupation of person killed.	Name of mineral worked	Cause of accident and remarks.
			MISCELLANEOUS ON SURFACE—(*12 deaths*)—*contd.*			
210	26th October, 11-30 A.M.	Bhutgoria mine, Bhaga P. O., Bihar and Orissa.	Aldih Coal Co., Ld.	Kertab Singh, (*m.*) 35, *Labourer.*	Coal	Deceased was engaged in the work of dismantling a steel headger, when he overbalanced and fell to the ground 40 feet below. He was struck by a girder which fell at the same time, and sustained injuries which later proved fatal. Inspection and inquiry made.
211	4th December, 3 P.M.	Gua mine, Gua P. O., Bihar and Orissa.	Indian Iron and Steel Co., Ld.	Jhandoo Meah, (*m.*), 30, *Labourer.*	Iron Ore.	With the object of removing a pulley-block deceased climbed to the top of a derrick pole from which one of the four guy ropes had been removed. The pole overbalanced and he fell with it to the ground, 25 feet below. He sustained a fracture of the skull and died three hours later. Inspection and inquiry made.
212	12th December, 4-30 P.M.	Bagdigi mine, Jharia P. O., Bihar and Orissa.	Villiers Ld.	Badi Bauri, (*m.*), 25, *Labourer.*	Coal.	Whilst engaged in dismantling a building a labourer brought about the collapse of a wall. He sustained spinal injuries which caused death soon after. Inspection and inquiry made.

APPENDIX II—*contd.*

Fatal Accidents during the year 1929—*contd.*

FIGURES NOT INCLUDED IN THE STATISTICS—(*39 deaths*)—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine	Name of owner	Name, sex, age and occupation of person killed	Name of mineral worked	Reason for exclusion	Cause of accident and remarks.
15	5th July, 12 noon.	Terria (Square 21 b) mine, Kodarma P. O., Bihar and Orissa	Chota Nagpur Mica Syndicate	Karim Meah, (*m*), 30.	Mica	Not employed	Whilst sheltering from a rain storm in an abandoned quarry, 10′ × 10′ × 10′, deceased was struck and fatally injured by stones which fell from the edge of the excavation. Inspection and inquiry made
16	10th July, 7-30 A.M.	Shwe Te Chaung mine, Palaw P O., Burma.	Leslie R. Beale	Hoosain, (*m*), 18, *Labourer*.	Tin	An accident under the Indian Explosives Act.	Although explosives were not used at the mine at which the deceased was employed he had obtained from an unknown source some dynamite and detonators and was drying them over a fire in a dwelling house An explosion occurred and he was fatally injured. It was presumed that he had intended to use the explosives for catching fish. Inspection and inquiry made
17	20th July, 11 A M.	Toposi mine, Toposi P. O., Bengal	Ranigra Coal Co., Ld	Sita Badi, (*m*), 30, *Chaprassie*	Coal	Not a mining accident	Whilst bathing in a surface tank deceased, who was unable *to swim, got into difficulties* and was drowned. Inspection and inquiry made
18	27th July, 9 A.M.	Joyrampur mine, Jharia P O., Bihar and Orissa	Joyrampur Coal Co.	Etowari Bhuiya, (*m*), 7.	Coal	Not employed.	Deceased released the catch on the door of a stationary railway wagon. The door fell and killed him instantly. Inspection and inquiry made
19	29th July, 1-30 P.M.	Tikuri mine, Katni Cement, Factory P.O., Central Provinces.	Katni Cement and Industrial Co., Ld.	Daulatia Teli, (*m*), 16.	Limestone.	Not employed.	A labourer, who had not been employed for several days on account of illness, passed through the fence at the top of a quarry 125 feet deep to watch others working. He fell over the edge and was killed. Inspection and inquiry made.
20	30th July, 12-30 P.M.	Khas Jharia mine, Jharia P. O., Bihar and Orissa.	Khora Ramji	Motia Turi, (*m*), 6.	Coal	Not employed.	Deceased was found drowned in a boiler feed tank, containing 7 feet of water. Inspection and inquiry made.

21	12th September, about 1-30 P.M.	Baidyanathpur mine, Pandaveswar P.O., Bengal	Samla Collieries, Ld.	Kamini Mejhian, (*f*), 4; Panroo Manjhi, (*m*), 70	Coal	Not a mining accident	The deceased were found drowned in a reservoir 16'×12' and 7' deep, the sides of which were built up 2 to 2½ feet above ground level. Inspection and inquiry made.
22	29th October	Tisra mine, Jharia P.O., Bihar and Orissa	Amarsing Gowamal Manji Gowamal.	Name unknown, (*m*), 30 to 40	Coal	Not employed.	Deceased was found drowned in an old water-logged quarry. Inspection and inquiry made.
23	7th November, 11 A.M.	Dongri-Buzruq mine, Tumsar-Dongri P.O., Central Provinces	Central Provinces Manganese Ore Co., Ld.	Sukruba, (*m*), 12	Manganese Ore	Not employed	A boy who was bringing food to his father approached unobserved, a place in a quarry where rock was being barred down from an upper level. A piece of rock struck him on the ankle, inflicting an injury which caused death on the day following. Inspection and inquiry made.
24	29th November, 12 P.M.	Bagdigga mine, Jharia P.O., Bihar and Orissa	Villiers, Ld.	Kashi Kahar, (*m*), 55, *Dispensary attendant.*	Coal	Not a mining accident	Deceased took a burning brazier into his quarters and, having closed the window and door, lay down to sleep. He was found suffocated the following morning. Inspection and inquiry made.
25	19th December.	Borjan and Kongon mine, Kongnyu P.O., Assam	Nazira Coal Co., Ld.	Manbir Kami, (*m*), 35, *Timber-cutter*	Coal	Not a mining accident	While at work in a forest a timber-cutter slipped and fell down a timber slide. He was fatally injured. Inspection and inquiry made.
26	22nd December, 9 P.M.	Jambad mine, Chora P.O., Bengal	North Adjai Coal Co., Ld.	Babulal Bauri, (*m*), 28, *Trolleyman*	Coal	Not a mining accident.	Whilst seated near a fire in his dwelling his clothing caught fire and he was fatally burned.
27	24th December, 3-15 P.M.	Dongri-Buzruq mine, Tumsar-Dongri P.O., Central Provinces.	Central Provinces Manganese Ore Co., Ld.	Sukrana, (*f*), 1½.	Manganese Ore	Not employed	A baby who had been taken by its mother on to the workings of the quarry strayed on to a tram line and not being noticed was run over and killed by a tub which was being pushed by hand. Inspection and inquiry made.

APPEN

Table

Statement of fatal and serious accidents in and about Mines

Province	Mineral field or District.	Number of separate fatal accidents.	FATAL						
			Number of deaths.						
			Under-ground		Open workings.		Surface.		
			Males.	Females.	Males.	Females.	Males.	Females.	Total.
									CO
Assam	Makum Coalfield	7	8	...	...	...	1	...	9
	Nazira „	2	1	...	...	...	1	..	2
Baluchistan	Baluchistan Coalfield	..	.	..	..	..	...	...	...
Bengal (and part of Bihar and Orissa).	Raniganj Coalfield	53	45	11	1		4	1	62
Bihar and Orissa	Jharia Coalfield	67	57	18	...	1	5	1	82
	Bokaro „	1	6	..	.	..	..	...	6
	Karanpura „	2	...	...	2	...	...	...	2
	Giridih „	7	7	6	...	..	...	1	14
	Hingir Rampur Coal-field.	1	2	.	...	.	..	...	2
Central Provinces	Pench Valley Coalfield	8	6	5	...	...		.	11
	Chanda „	2	2	...	...		...	..	2
Punjab	Salt Range Coalfield	2	2	...	...	...	...	...	2
	Total (Coal)	152	136	40	3	1	11	3	194

DIX II.

No. 2.

regulated by the Indian Mines Act, 1929.

ACCIDENTS.				SERIOUS ACCIDENTS.											
Death rate per 1,000 persons employed.				Number of separate serious accidents.	Number of persons seriously injured							Serious injury rate per 1,000 persons employed.			
					Under-ground.		Open workings		Surface.						
Underground.	Open workings.	Surface.	Underground, Open workings and Surface.		Males	Females.	Males	Females.	Males.	Females	Total.	Underground	Open workings.	Surface.	Underground, Open workings and Surface.
AL															
4 66	..	1 21	2 61	44	27	.	4	1	11	1	44	15·74	5 50	14 48	12 74
2 25	.	4 83	2·96	4	3	.	...	.	1		4	6 76		4 33	5 93
...	..		...	1	1	.	..	...	.		1	6 25		...	4 72
1 61	0 67	0 32	1 19	74	52	7			18	.	77	1 69	..	1 14	1 48
1 69	0 53	0 25	1 16	185	120	16	2		45	6	191	3 07	1 07	2 17	2 71
4 91			0 57	36	4	2	12	8	9	1	36	4 94	1 61	3 66	2·20
	1 19		0 58	5	2			1	2		5	2 16	0 60	2 31	1 44
1 83		0 46	1 46	32	26	7			1		34	4 64		0·46	3 55
12 42			9 13						..	.					..
2 91			1 98	46	31	6			9	2	48	9·79		6 28	8·66
1 25			0·95	1	1		..				1	0·63	..		0·47
5 14			2·09	4	3		..		1		4	7 71		3 05	5 35
1 82	0 21	0 28	1 17	432	270	38	18	10	97	12	445	3·18	1 49	2·18	2·09

Table

Statement of fatal and serious accidents in and about Mines

FATAL

Province.	Mineral field or District.	Number of separate fatal accidents	Number of deaths. Underground Males.	Underground Females.	Open workings Males.	Open workings Females.	Surface Males.	Surface Females.	Total.
									IRON
Bihar and Orissa .	Singhbhum District .	7	.	...	2	1	4	...	7
Burma . . .	Shan States .	1	...	...	1	...	.	...	1
	Total (Iron Ore) .	8		...	3	1	4	..	8
									MANGA
Bihar and Orissa .	Singhbum District .	1	...	...	...	...	1	...	1
Bombay . .	......	...	...	...	...	...	...	.	...
Central Provinces .	.. ...	4	1	...	...	1	...	2	4
Madras . . .	Vizagapatam District .	1	...	...	1	...	...	...	1
	Total (Manganese Ore)	6	1	...	1	1	1	2	6
									LEAD
Burma . . .	Shan States .	10	20	...	...	...	...	..	20
									TIN AND
Burma . . .	Tavoy and Mergui Districts.	5	...	...	4	...	4	..	8

DIX II—*contd.*

No. 2—*contd.*

regulated by the Indian Mines Act, 1923—*contd.*

ACCIDENTS.				SERIOUS ACCIDENTS.											
Death rate per 1,000 persons employed.				Number of separate serious accidents	Number of persons seriously injured.							Serious injury rate per 1,000 persons employed			
					Under-ground.		Open workings		Surface						
Underground.	Open workings	Surface.	Underground, open workings and Surface		Males.	Females	Males.	Females	Males.	Females	Total.	Underground	Open workings	Surface	Underground, Open workings and Surface
ORE															
..	0 52	1·72	0 86	14		..	5	...	9	..	14	.	0 86	3 87	1 73
.	4 35		1 52	2	.		...		2		2		.	4·06	3 03
...	0 66	1 45	0·91	16			5		11	..	16		0 83	3·90	1 82
NESE ORE															
.		1 38	0 60	2	...	.	...	...	2	...	2			2 75	1·20
..				22			7	4	9	2	23	.	3·66	17 16	5·98
1 00	0 06	0 58	0 20	26		...	9	9	[illegible]	2	28	.	1 13	2 89	1·37
...	0 81		0 66	2		.	3	.	1	...	4		2·42	3 60	2 64
0 83	0 10	0·59	0 22	54			19	13	20	4	56	..	1 53	4·70	2 06
ORE															
8·88	...		8 30	91	81				10	.	91	15·73		11·79	15 02
WOLFRAM ORE															
...	0 65	5 19	0·93	11	2		2		7	...	11	1 19	[illegible]	[illegible]	1·23

APPEN

Table

Statement of fatal and serious accidents in and about Mines

Province.	Mineral field or District.	FATAL							
		Number of separate fatal accidents.	Number of deaths						
			Underground.		Open workings.		Surface.		
			Males.	Females.	Males.	Females.	Males.	Females.	Total.
									COPPER
Bihar & Orissa .	Singhbhum District .	1	2		...	..	...	...	2
	Total (Copper Ore).	1	2	...	..	.	.	.	2
									GE
Burma . .	Katha District .	3		...	2	.	1	..	3
									CHROMITE
Baluchistan . .	Zhob District .	.	..	...		.	.	...	
Bihar and Orissa . .	Singhbhum District .	...	..	...	...	..	..	...	..
	Total (Chromite Ore)	...	..	...	...	..	...	...	...
									MI
Bihar & Orissa . .	.. ...	6	5				.	1	6
Madras	. ...	2	1	..	1	.		.	2
	Total (Mica)	8	6	..	1	...	...	1	8
									SA
Punjab . . .	Salt Range .	1	1	...		...	...	..	1

' II—*contd.*

2—*contd.*

ulated by the Indian Mines Act, 1929—*contd.*

IDENTS				SERIOUS ACCIDENTS.											
'eath rate per 1 00) persons employed				Number of separate serious accidents.	Number of persons seriously injured.							Serious injury rate per 1,000 persons employed.			
					Underground.		Open workings		Surface.						
[illegible]	Open workings	Surface	Underground, Open workings and Surface.		Males	Females	Males.	Females.	Males.	Females.	Total.	Underground.	Open workings.	Surface.	Underground, Open workings and Surface.
. E															
66			4 54	6	3	..	...	.	2	1	6	18 99	..	10 60	13 61
66			4 46	6	3				2	1	6	18 99	..	10 60	13 39
IS															
	10 36	4 95	7 61				.	..	.	...	.	...	...	...	..
RE															
			--	3	1	.	2	.	.	.	3	9 01	27 78	...	12·35
	.			1	..		.	.	1	...	1	..	..	18 18	1·47
		.	..	4	1	.	2	...	1	..	4	9 01	2 87	8 69	4 34
CA															
0 62		0 55	0 50	5	5	.		.	..	...	5	0 62	..	...	0·42
0 54	0 83	...	0 48		.	.	...	...	.	...	--	..	...	..	...
0 60	0 28	0 34	0 48	5	5	..	..	.	..	.	5	0 50	...	..	0 30
LT															
0 93	.	.	0·62	3	3	...	...	..	..	...	3	2·79	...	...	1 87

Table

Statement of fatal and serious accidents in and about Mines

Province.	Mineral field or District.	Number of separate fatal accidents.	FATAL Number of deaths Under-ground. Males.	Under-ground. Females.	Open workings. Males.	Open workings. Females.	Surface. Males.	Surface. Females.	Total.
									COPPER
Bihar & Orissa . .	Singhbhum District .	1	2	..	...	.	...	...	2
	Total (Copper Ore) .	1	2	...	..	..	.	–	2
									GE
Burma	Katha District .	3		...	2		1	.	3
									CHROMITE
Baluchistan . .	Zhob District . .	.		...	.	.	..	...	
Bihar and Orissa . .	Singhbhum District .	...	...	...	.	..	..	...	...
	Total (Chromite Ore)	...	..	...	...	...	...	...	...
									MI
Bihar & Orissa . .	......	6	5	.		.	.	1	6
Madras . . .	.. ..	2	1	.	1	..		–	2
	Total (Mica)	8	6	.	1	...	...	1	8
									SA
Punjab . . .	Salt Range . .	1	1	..		...	...	...	1

No. 2—*contd.*

regulated by the Indian Mines Act, 1929—*contd.*

ACCIDENTS				SERIOUS ACCIDENTS											
Death rate per 1,000 persons employed				Number of separate serious accidents	Number of persons seriously injured.							Serious injury rate per 1,000 persons employed.			
					Underground.		Open workings		Surface.						
Underground.	Open workings	Surface.	Underground, Open workings and Surface.		Males	Females	Males.	Females.	Males.	Females	Total.	Underground.	Open workings.	Surface.	Underground, Open workings and Surface.
ORE															
12 66			4 54	6	3	..	.		2	1	6	18·99		10 60	13·61
12 66			4 46	6	3				2	1	6	18 99	.	10 60	13 39
MS															
.	10 36	4 98	7·61					.	..	.	.	...	.	.	..
ORE															
..			..	3	1	..	2	...	.	..	3	9 01	27 78	.	12·35
.	...	.		1	.				1	.	1	...	..	18 18	1·47
.		.		4	1	.	2	...	1	...	4	9·01	2 87	8 69	4 34
CA															
0 62		0 55	0 50	5	5	.		..	...	...	5	0 62	..	...	0 42
0 54	0 83	..	0 48		..	...	...	...		...	—	...	—	--	...
0 60	0 28	0 34	0 48	3	5	..	...		..	..	5	0 50	..	...	0·30
LT															
0 93			0·62	3	3	...	.	...	...	...	3	2·79	...	...	1·87

Table

Statement of fatal and serious accidents in and about Mines

FATAL

Province.	Mineral field or District	Number of separate fatal accidents.	Number of deaths. Underground. Males.	Underground. Females	Open workings. Males.	Open workings. Females.	Surface Males.	Surface Females.	Total.
									STO
Bihar and Orissa	Santhal Parganas	1	...	..	1	..	..	...	1
	Shahabad	2		...	1	.	1	...	2
	Total	3	.	...	2	..	1	...	3
Bombay	Bombay Suburban	3	..	...	3	..	.	1	4
	Total	3	..	..	3	..	..	1	4
Burma	Northern Shan States	1		...	1	...	...	...	1
	Thaton	4	..	...	4	...	...	...	4
	Toungoo	1	...	.	1	...	...	...	1
	Total	6	.	..	6	...	...	.	6
Central Provinces	Jubbulpore	.	...	...	...	...	...	...	...
	Total	...	...	...	...	...	..	..	..
Punjab	Jhelum	..	...		...	...	...		...
	Rawalpindi	1	.	...	1	..		.	1
	Total	1	..	...	1	..	...	..	1
United Provinces	Allahabad	.	...	...	.	...	...	.	...
	Banda	1	.	..	1	...	...	..	1
	Total	1	...	...	1	.	...	...	1
	Total (Stone) for 1929	14	...	...	13	...	1	1	15

DIX II—*contd.*

No. 2—*contd.*

regulated by the Indian Mines Act, 1929—*contd.*

ACCIDENTS				SERIOUS ACCIDENTS											
Death rate per 1,000 persons employed				Number of separate serious accidents.	Number of persons seriously injured.							Serious injury rate per 1,000 persons employed.			
					Underground		Open workings.		Surface.						
Underground	Open workings	Surface	Under ground, Open workings and Surface		Males	Females	Males	Females.	Males.	Females	Total	Underground.	Open workings.	Surface	Underground, Open workings and Surface.
NE															
..	0 79	...	0 48					.		...	.	..	...	..	...
.	0 76	2 90	1 20			.	...		...	...	...	..	...	...	...
	0 48	0 84	0 56		.		..	.	...		...	..	.	...	...
	1 97	5 21	2 33	4	.	...	..	1	3	..	4		0 66	15 62	2 33
..	0 70	1 76	0 82	4	..	...	.	1	3	...	4	. .	0 23	5 27	0·82
...	4 95		4 95	1	..		1	.	...	...	1	...	4 95	...	4 95
.	2 04		1 84	7	..		11	.	.	..	11	.	5 60	.	5 07
	1 71		1 68		...	.		. .	...	...		...	...	.	...
.	1 76	. .	1 63	8		...	12	.	...	...	12	. .	3 51	...	3·27
...	...			3	..	...	1	1		1	3	...	0·58	1 55	0 74
			..	3	...	.	1	1	..	1	3	...	0 49	1·17	0 61
	...		...	2	...	..	..	...	3	..	3	..	...	12·20	4 02
...	5 29		1 88	...	...		...	...	...	...	...	...	...	...	...
	0 53	...	0 34	2	. .	. .	. .	...	3	...	3	...	...	2·74	1 01
..	.		..	2	...	..	1	...	1	...	2	...	0·42	9·60	0·90
..	1 24	.	1 32	3		...	2	...	1	.	3	--	3·08	15 15	3·05
...	0 23		0 21	5	...	...	3	..	2	...	5	..	0·70	3·23	1·04
	0·48	0·40	0·55	22	...	...	16	2	8	1	27	...	0·80	1·30	0

Table

Statement of fatal and serious accidents in and about Mines

Province	Mineral field or District	FATAL							
		Number of separate fatal accidents.	Number of deaths						
			Under-ground.		Open workings.		Surface.		Total.
			Males.	Females	Males.	Females.	Males.	Females	
		MAGNE							
Madras	Salem District	..	..		..	.	...	.	..
		BAU							
Bombay	Kaira District	...		..		...	.	...	
		STEA							
United Provinces	Hamirpur District		...	..	...	...	..	...	..
	Total (Steatite)	...	..	...	...	...	.	...	...
		FIRE							
Bihar and Orissa	Palamau District	1	...	...	..	1	...	.	1
Central Provinces	Jubbulpore District	...	..	...	.	...	..	...	...
	Total (Fire Clay)	1	...	...	...	1	.	.	1
		CHINA							
Bihar and Orissa	Singhbhum District	..	.	...	..	.	...	...	..
	Total (China Clay)	..	...	.	...	...	...	...	...
		CL							
Bengal	Burdwan District	.	...	...	...	...	.	.	...
	Total (Clay)	.	...	..		...	...	...	...
	Grand Total (All minerals).	212	168	40	27	4	22	7	2[illegible]

DIX II—*contd.*

No. 2—*concld.*

regulated by the Indian Mines Act, 1929—*concld.*

	ACCIDENTS				SERIOUS ACCIDENTS.												
	Death rate per 1,000 persons employed.				Number of separate serious accidents.	Number of persons seriously injured.							Serious injury rate per 1,000 persons employed.				
						Underground		Open workings.		Surface.							
	Underground.	Open workings.	Surface.	Underground, Open workings and Surface		Males.	Females	Males.	Females.	Males	Females.	Total.	Underground.	Open workings.	Surface.	Underground, Open workings and Surface.
SITE																	
	..	...			2	.		..		1	1	2	...	.	12 74	1·30
XITE																	
			.		1				.	1	...	1	...	...	71 43	5 13
TITE																	
	..				1	1				...	...	1	3 32	...	...	1·99
		..			1	1		.	-			1	2 51	..	..	1 01
CLAY																	
	..	4 23		2 52		...		..		...	.	...	...			...
			.		1			1	.	.		1	..	2·59	..	2 13
	..	1 29		0 96	1			1		.	...	1	...	1·29	...	0 93
CLAY																	
	—			.	1		...	.	..	...	2	2	..	...	7·75	2·71
					1		.	.	...	...	2	2	...	...	7·52	2·65
AY																	
	—				1	..	.	1	...		...	1	...	14·08	—	12·08
	..			.	1	...	...	1	...	—	—	1	...	7·57	—	7·30
	1 76	0 37	0·42	0·99	651	368	38	64	25	158	21	672	3·45	1·07	2·56	

APPENDIX II—*concld.*

Table No. 3.

Statement of fatal accident in Mines regulated by the Indian Mines Act, during the year 1920, classified according to cause of accident.

Mineral worked.	Number of separate fatal accidents.	Number of persons killed												Death rate per 1,000 persons employed.			
		Explosions and ignitions of fire-damp	Falls of roof	Falls of side	In shafts.	Suffocation by gases.	By explosives	Irruptions of water	Haulage.	Miscellaneous underground.	Surface.	By electricity.	Total deaths.	Underground.	Open workings.	On surface.	Underground, Open workings and Surface.
Coal	152	8	81	34	11	2	6	..	28	10	12	2	194	1·82	0·21	0·28	1·17
Iron Ore	8	...	.			.	...	..	1	3	4	.	8	...	0·66	1·45	0·91
Manganese Ore	6		.	2	..	...	.	...	1		3	...	6	0·83	0·10	0·30	0·22
Lead Ore	10	...	15	2	1	..		..	1	1	.	..	20	3·88	...	.	3·30
Tin and Wolfram Ore.	8	.		2	..	...	1	.	...	1	4	...	8	..	0·65	5·19	0·93
Copper Ore	1	..	2	...		.	..	...	...	...	...	...	2	12·66	...	...	4·34
Mica	6		1	5	1	..	...	...	...	...	1		8	0·60	0·28	0·31	0·45
Gems	3	..		2	...		...	..	..	...	1	...	3	...	10·36	4·98	7·61
Salt	1	...	..	1	...		...	...	...	...	...	...	1	0·10	..	...	0.62
Limestone	4	...	...	...	...	..	1	..	..	2	1	...	4	...	0·46	0·50	0·47
Igneous Rock	6	...	...	3	...	.	1	...	...	2	...	..	6	...	0·90	...	0·69
Stone	1	...	.		.	...	...	...	..	1	...	...	1	...	0·28	...	0·24
Muram	3	...	...	2	..	...	...	...	...	1	1	...	4	..	2·07	15·63	2·65
Fire clay	1	...	...	1	...	...	...	..	...	...	...	...	1	...	1·29	.	0·36
Total 1920	212	9	99	54	13	2	9	...	31	21	27	2	266	1·76	0·37	0·42	0·99
Total of preceding year	221	3	84	58	16	1	17	7	29	14	28	2	259	1·64	0·44	0·44	0·97
Difference	—9	+5	+15	—4	—3	+1	—8	—7	+2	+7	—1	...	+7	+0·12	—0·07	—0·02	+0·02

APPENDIX III.

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1929.

Province.	District	Number of prosecutions	Number of persons prosecuted	Number of persons convicted.	Number of Regulations and rules and Sections of the Act contravened	REMARKS.
Assam . .	Lakhimpur	1	1	1	Regulation 130 of the Indian Coal Mines Regulations, 1926.	
Bengal	Bankura	1	3	..	Regulation 15(2), (3) and (4).	All the accused were acquitted
	Burdwan . .	2	3	2	Regulation 3(2) and (3) of the Indian Coal Mines Regulations, 1926	One of the accused was acquitted
	Do . .	1	2	2	Regulations 82, 84, 146 and 148 of the Indian Coal Mines Regulations, 1926.	
	Do . .	1	1	1	Regulation 127(a) of the Indian Coal Mines Regulations, 1926.	
	Do . .	1	4	2	Regulation 15(3), 53((2) and 76(2)	Case against two of the accused was dropped.
	Do . .	1	1	1	Regulations 100, 101, 104 and 149 of the Indian Coal Mines Regulations, 1926, and Section 28 of the Indian Mines Act 1923	
	Do. .	1	6	2	Regulations 72, 121, and 146 of the Indian Coal Mines Regulations, 1926.	One of the accused died and three were acquitted
	Do . .	1	2	1	Rule 9 of the Bengal Government Rules and Section 28 of the Indian Mines Act, 1923.	One of the accused was acquitted
	Do . .	1	1	...	Regulation 143 of the Indian Coal Mines Regulations, 1926.	Accused was acquitted
	Do. . .	1	2	2	Section 23 of the Indian Mines Act, 1923.	
	Do. .	1	2	2	Section 19(2) of the Indian Mines Act, 1923 and Regulation 213 of the Indian Coal Mines Regulations 1926	

APPENDIX III—*contd.*

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1929—*contd.*

Province	District.	Number of prosecutions.	Number of persons prosecuted.	Number of persons convicted.	Number of Regulations and rules and Sections of the Act contravened	REMARKS.
Bengal—*concld.*	Burdwan	1	1	.	Regulation 144 of the Indian Coal Mines Regulations, 1926	Acquitted.
Bihar and Orissa.	Gaya	1	2	2	Regulation 38 of the Indian Metalliferous Mines Regulations, 1926.	
	Do.	1	1	1	Section 26 of the Indian Mines Act, 1923, and Rule 9 read with Section 28 of the Indian Mines Act, 1923	
	Do.	6	6	5	Regulation 3(1) of the Indian Metalliferous Mines Regulations, 1926	One of the accused was acquitted.
	Hazaribagh	1	2	2	Regulations 71 and 81 of the Indian Metalliferous Mines Regulations, 1926	
	Do.	1	2	1	Regulations 139 and 140 (1) of the Indian Coal Mines Regulations, 1926.	One of the accused was acquitted.
	Do.	1	1	...	Rule 17, made by the Bihar and Orissa Government under Section 30 of the Indian Mines Act, 1923.	Acquitted.
	Do.	5	5	5	Regulation 3 (1) and (2) of the Indian Metalliferous Mines Regulations, 1926.	
	Manbhum	1	9	7	Regulation 149 of the Indian Coal Mines Regulations 1926, and Section 28 of the Indian Mines Act, 1923	One of the accused died and the case against one was dropped.
	Do.	1	5	5	Special Rules 3, 5, 7, 15 and 21 and Regulations 82, 84, 147 and 148 of the Indian Coal Mines Regulations, 1926	

APPENDIX III—*contd.*

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1929—*contd.*

Province.	District.	Number of prosecutions	Number of persons prosecuted.	Number of persons convicted	Number of Regulations and rules and Sections of the Act contravened.	REMARKS.
Bihar and Orissa—contd	Manbhum .	1	2	1	Regulation 23 of the Indian Coal Mines Regulations, 1926, read with Section 15 (1) and (2) of the Indian Mines Act, 1923	One of the accused was acquitted.
	Do. . .	1	1	1	Regulations 82, 84 and 148 of the Indian Coal Mines Regulations, 1926.	
	Do .	1	1	1	Regulations 17 of the Indian Coal Mines Regulations, 1926.	
	Do. .	1	1	.	Regulation 23 of the Indian Coal Mines Regulations, 1926, read with Section 15 of the Indian Mines Act, 1923.	Acquitted.
	Do. . .	1	1	1	Section 23(5) and Rule 9 made under Section 30 of the Indian Mines Act, 1923.	
	Do .	1	1	1	Regulations 23 and 24 of the Indian Coal Mines Regulations, 1926.	
	Do . .	1	2	2	Regulation 69(1) and (2) of the Indian Coal Mines Regulations, 1926.	
	Do. . .	1	2	2	Regulation 117 of the Indian Coal Mines Regulations, 1926.	
	Do .	1	1	1	Regulation 58(i) (IV) of the Indian Coal Mines Regulations, 1926.	
	Do .	2	5	4	Regulation 76(1) of the Indian Coal Mines Regulations, 1926.	One of the accused let off with a warning.
	Do.	1	1	1	Regulations 144 and 146 of the Indian Coal Mines Regulations, 1926	
	Do .	1	4	4	Regulations, 138(1), 139 and 141 of the Indian Coal Mines Regulations, 1926.	

APPENDIX III—*contd*

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1929—*contd*.

Province	District	Number of prosecutions.	Number of persons *prosecuted*.	Number of persons convicted	Number of Regulations and rules and Sections of the Act contravened	REMARKS.
Bihar and Orissa—*concld*	Manbhum .	1	1	1	Regulations 15 (2) and 76 (1) of the Indian Coal Mines Regulations, 1926.	
	Do .	1	1	1	Regulation 17 of the Indian Coal Mines Regulations, 1926.	
	Do .	1	2	..	Regulations 82 and 84 of the Indian Coal Mines Regulations, 1926.	Case dropped as neither of accused could be traced.
	Do. . .	3	4	1	Regulation 3 (3) of the Indian Coal Mines Regulations, 1926.	One of the accused died, one could not be traced and the case against one was dropped.
	Palamau .	1	3	3	Section 14 of the Indian Mines Act, 1923.	
	Santhal Parganas	2	2	2	Regulation 3 (1) of the Indian Metalliferous *Mines Regulations*, 1926	
	Do .	1	2	2	Regulation 3 (3) of the Indian Coal Mines Regulations, 1926.	
	Shahabad . .	1	1	1	Rules 8 and 9 of the Rules made by the Local Government and Section 15 (2) of the Indian Mines Act, 1923, read with Regulation 21 (1) of the Indian Metalliferous Mines Regulations 1926	
	Do. . .	1	1	1	Regulation 3 (1) of the Indian Metalliferous Mines Regulations 1926.	
Burma . .	Mergui . .	3	3	3	*Regulation 3 (1) and (2)* of the Indian Metalliferous Mines Regulations 1926	Case against two of the accused was dropped as they could not be traced.

APPENDIX III—*contd.*

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1929—*contd.*

Province.	District	Number of prosecutions	Number of persons prosecuted.	Number of persons convicted	Number of Regulations and rules and Sections of the Act contravened.	REMARKS.
Burma—*contd*	Tavoy	2	2	..	Regulation 3 (1) of the Indian Metalliferous Mines Regulations, 1926.	Case dropped as accused could not be traced
Central Provinces	Chanda	1	3	3	Regulations 15 (2) and (4), 53 (2) and 137 (2) of the Indian Coal Mines Regulations, 1926.	
	Chhindwara	1	1	1	Regulations 143 and 148 of the Indian Coal Mines Regulations, 1926.	
	Do	1	2	2	Regulations, 144, 101 and 108 of the Indian Coal Mines Regulations, 1926	
	Do	1	1	...	Regulation 3 (3) of the Indian Coal *Mines* Regulations, 1926	Case dropped.
	Do	1	2	2	Regulations 109 and 110 of the Indian Coal Mines Regulations, 1926 read with special Rules 48 and 68.	
	Jubbulpore	1	1	1	Regulations 38, 40 and 72 of the Indian Metalliferous Mines Regulations, 1926	
	Do.	1	1	1	Section 26 of the Indian Mines Act, 1923 read with Sections 26 and 30	
Madras	Nellore	2	2	1	Regulation 3 (1) of the Indian Metalliferous *Mines* Regulations, 1926.	Case against one of the accused was dropped.
	Vizagapatam	3	3	3	Regulation 3 (2) of the Indian Metalliferous Mines Regulations, 1926	
Punjab	Jhelum	1	1	...	Regulation 3 (1) of the Indian Metalliferous Mines Regulations 1926	Case dropped as accused could not be traced
	Gurgaon	1	1	...	Regulation 3 (2) of the Coal Mines Regulations, 1926	Acquitted

APPENDIX III—*concld.*

Statement of prosecutions under the Indian Mines Act, and Indian Penal Code, during the year 1929—*concld.*

Province.	District.	Number of prosecutions.	Number of persons prosecuted.	Number of persons convicted.	Number of Regulations and rules and Sections of the Act contravened	REMARKS.
Rajputana .	Ajmer-Merwara	1	1	1	Regulation 3 (1) of the Indian Metalliferous Mines Regulations, 1926.	
United Provinces.	Banda . .	1	1	1	Regulation 3 (1) of the Indian Metalliferous *Mines Regulations,* 1926	
	Hamirpur .	1	1	1	Regulations 38, 46 and 48 of the Indian Metalliferous Mines Regulations, 1926.	
	Do . .	5	5	4	Regulation 3 (1) and (2) *of the Indian Metalliferous* Mines Regulations, 1926.	One of the accused died.
	TOTAL .	83	[illegible]	93		

APPENDIX IV.

Miscellaneous.

Statement No. 1.

LIST OF INSPECTION CIRCLE.

No 1 Circle	No 2 Circle.
1. All mines in Baluchistan	1 All mines in Assam
2 All mines in Bihar and Orissa except mines in the Distr[illegible] mines in [illegible] of a line [illegible] Nagpur [illegible] Trunk R[illegible] across the District	2 All mines in Bengal.
	3 [illegible] Bihar and Orissa [illegible] in the [illegible]
3. All mines in the North-West Frontier Province.	4 All mines in Bombay.
4. All mines in the Punjab	5 All mines in Burma.
5 All mines in Rajputana	6 All mines in the Central Provinces.
6. All mines in the United Provinces	7. All mines in Madras

Statement No. 2.

Names of persons to whom first and second class certificates of competency to manage a coal mine were granted during the year 1929.

Certificates granted to holders of English certificates of competency.

(a) FIRST CLASS.

Name.	Number of Indian certificate.	Date of Indian certificate.	Number of English certificate.	Date of English certificate.
Burton, Wallace Victor . .	345	18th February 1929	1849	31st July 1925
Hearn, Ralph . . .	346	30th April 1929 .	1862	Ditto
Milne, James Wallace . . .	347	30th September 1929	1415	4th August 1923.
Guha, Sudhir Chandra .	348	Ditto . .	2316	25th January 1929.
Buxton, Lewis Sydney . .	349	18th December 1929	1733	5th February 1925.
Coate, Robert Thomas . . .	350	Ditto .	1821	31st July 1925.

(b SECOND CLASS.

Name.	Number of Indian certificate.	Date of Indian certificate.	Number of English certificate.	Date of English certificate.
McDill, Robert	29	30th September 1929.	0·01	31st December 19[illegible].
Brettell, George	30	Ditto .	2[illegible]	17th February 1927.

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 2—*contd.*

Names of persons to whom first and second class certificates of competency to manage a coal mine were granted during the year 1929—*contd.*

INDIAN CERTIFICATES.

(*a*) First class.

Name.	No. of certificate	Date of certificate.	Remarks.
Powell, Joseph Arthur	201	26th April 1929.	
Hindley, Clement Walter Godfrey .	202	30th September 1929.	
Woods, Percy William Henry . . .	203	26th April 1929	
Bhattacharjee, Prafulla Chandra . .	204	Ditto	

(*b*) Second class

Name.	No. of certificate	Date of certificate.	Remarks.
Brahmachari, Sushil Kumar	439	26th April 1929.	
Dandekar, Purushottam Bhaskar .	440	Ditto.	
Banerji, Hiralal	441	Ditto	
Scott, Sydney John	442	Ditto.	
Tewari, Ananga Mohan	443	Ditto	
Roy, Shakti Pada	444	Ditto.	
Banerjee Santalal	445	Ditto.	
Dutt, Monindra Nath	446	Ditto	
Saha, Jitendra Nath	447	Ditto.	

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 2—*concld.*

Names of persons to whom colliery surveyors' certificates of competency were granted during the year 1929.

Name.	No. of certificate.	Date of certificate.	REMARKS.
Basu, Kamal Krishna	44	20th February 1930.	
Bhattacharjee, Dakshaja Sankar . .	45	Ditto.	
Gupta, Sisir Kumar	46	Ditto.	
Banerjee, Bibhuti Bhusan	47	Ditto.	
Sen Gupta, Jiban Kumar	48	Ditto.	
Dutt, Nibaran Chandra	49	Ditto	
Roy, Sudhir Chandra	50	1st April 1930 .	

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 3.

GOVERNMENT OF INDIA.

DEPARTMENT OF INDUSTRIES AND LABOUR.

NOTIFICATION.

New Delhi, the 7th March 1929.

No. M.-1055.—In exercise of the powers conferred by section 29 of the Indian Mines Act, 1923 (IV of 1923), the Governor General in Council is pleased to make the following regulations, the same having been previously published as required by sub-section (1) of section 31 of the said Act namely —

Regulations for prohibiting the employment of women underground in Mines.

1. These regulations shall have effect from the 1st day of July, 1929.

2 In these regulations—

(1) "exempted mine" means—

(a) coal mines in Bengal, Bihar ond Orissa and the Central Provinces;

(b) salt mines in the Punjab; and

(2) "underground workings" means any part of a mine situated beneath the superjacent ground, and includes vertical shafts provided for access to, or for the ventilation of such part; but does not include tunnels made and used only for convenience in disposing of spoil.

3. No woman shall be permitted to enter or remain in the underground workings of any mine other than an exempted mine, unless she is authorised in that behalf in writing by the Chief Inspector.

4. In an exempted mine—

(1) *up to and including the 30th day of June, 1939:*—

(a) no woman shall be permitted to enter or remain in the underground workings of the mine unless—

(i) she is employed to work therein in accordance with the provisions of sub-clause (b) or

(ii) she is authorised in that behalf in writing by the Chief Inspector, and

(b) the total number of women employed to work in the underground workings of the mine on any day in any year specified in column 1 of the Schedule shall not be a greater percentage of the total number of persons, both women and men, so employed in the mine on that day than the percentage specified against that year, in the case of exempted coal mines, in column 2 and in the case of exempted salt mines, in column 3 of the Schedule; and

(2) on and after the 1st day of July, 1939, no woman shall be permitted to enter or remain in the underground workings of the mine, unless she is authorised in that behalf in writing by the Chief Inspector

APPENDIX 1V—*contd.*

Miscellaneous—*contd.*

Statement No. 3—*contd*

GOVERNMENT OF INDIA.

DEPARTMENT OF INDUSTRIES AND LABOUR.

NOTIFICATION.

New Delhi, the 7th March 1929.

SCHEDULE.

Year.	Percentage of the total number of persons, both men and women, employed underground.	
	Exempted coal mines.	Exempted salt mines
1	2	3
1st July 1929 to 30th June 1930	29	40
1st July 1930 to 30th June 1931	26	36
1 t July 1931 to 30th June 1932	23	32
1st July 1932 to 30th June 1933	20	28
1st July 1933 to 30th June 1934	17	24
1st July 1934 to 30th June 1935	14	20
1st July 1935 to 30th June 1936	11	16
1st July 1936 to 30th June 1937	8	12
1st July 1937 to 30th June 1938	5	8
1st July 1938 to 30th June 1939	2	4

A. C. McWAtt

Secy. to the G

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 4.

GOVERNMENT OF INDIA.

DEPARTMENT OF INDUSTRIES AND LABOUR.

NOTIFICATION.

Simla, the 13th May 1929.

No. M ... dian Mines Act, 1923 (... e following amendmen ... aving been previously ... :—

In the said Regulations—

1. In regulations 19 and 27, after the words "such date" the words "and in such areas" shall be inserted.

2. The proviso to regulation 26 shall be omitted.

3. In sub-regulation (5) of regulation 31, the words and figures "except as regards examinations held before the 1st day of March, 1927" shall be omitted.

4 Sub-regulation (*1*) of regulation 42 shall be omitted

5. (i) Sub-regulation (*2*) of regulation 42 shall be re-numbered 42 (*1*) and for the sub-regulation so re-numbered the following shall be substituted, namely :—

"42. (*1*) Applications for admission to an examination shall be chargeable with fees which shall be paid in the manner prescribed in regulation 153 according to the following scale, namely —

	Rs.
(*a*) in the case an examination for a first class manager's certificate	25
(*b*) in the case of an examination for a second class manager's certificate	15
(*c*) in the case of an examination for a surveyor's certificate .	15
(*d*) in the case of an examination for a sirdar's certificate . .	5

(ii) Sub-regulation (*3*) of regulation 42 shall be re-numbered sub-regulation (*2*) and for the sub-regulation so re-numbered the following shall be substituted, namely :—

"(*2*) ... less Re. 1, in the case of ... sirdar's certificate, and less ... rson by whom it has been ... sion to the examination is rejected."

6. Sub-regulation (*2*) of regulation 43 shall be omitted.

7. ... ulation (2), and in ... "The fee shall be ... words and figures ... ion 153" shall be substituted.

8 In regulation 44, for the words "in advance to the Chief Inspector in respect thereof" the words and figures "in the manner prescribed in regulation 153" shall be substituted

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No 4—*contd.*

GOVERNMENT OF INDIA

DEPARTMENT OF INDUSTRIES AND LABOUR.

NOTIFICATION.

Simla, the 13th May 1929.

9 In regulation 50—

(i) For sub-regulation (3) the following shall be substituted, namely —

"(3) A fee of five rupees shall be payable in the manner prescribed in regulation 153 in respect of an application for the grant of a manager's permit."

(ii) In sub-regulation (6) the words and figures "on or after the first day of January 1927", shall be omitted.

10. In clause (b) of regulation 58, the words and figures "The provisions of this clause shall not come into force until the first day of October, 1927", shall be omitted.

11. In regulation 71—

(i) In sub-regulation (1) the words and figures "With effect from the first day of January, 1927", shall be omitted.

(ii) In sub-regulation (2) after the word "rupee" the words and figures "payable in the manner prescribed in regulation 153", shall be inserted.

12. To regulation 116 the following proviso shall be added, namely —

"Provided that in the case of any mine an exemption may be given by the Chief Inspector on the ground that, on account of the special character of the mine the prohibition of the use of explosives other than "Permitted Explosives" is not necessary".

13 In regulation 136 for the words and figures "the 1st day of July, 1927 or such later" the word "such" shall be substituted.

14. After regulation 152, the following regulation shall be added, namely :—

"153. The fees payable under regulations 42 (1), 43 (2), 44 and 71 (2) shall be paid [illegible]

into the Treasury or a branch of the Imperial Bank of India, but such payment need not be made until the application to which the fee relates has been accepted."

T. RYAN,

Offg. Secy. to the Govt of India

Miscellaneous—*contd.*

Statement No. 5.

GOVERNMENT OF INDIA.

DEPARTMENT OF INDUSTRIES AND LABOUR.

NOTIFICATION.

Simla, the 13th May 1929.

No. M.—1055 (2).—In exercise of the powers conferred by section 29 of the Indian Mines [illegible] following [illegible] ne having [illegible] mely :—

In sub-regulation (*1*) of regulation 16 of the said Regulations for the words "mines or classes of mines" the words "mines or parts of mines or classes thereof" shall be substituted.

T. RYAN,

Offg. Secy. to the Govt. of India.

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 6.

NOTIFICATION.

No. 1025-T Com.—14th September 1929.—In exercise of the powers conferred by section [illegible] the Governor in Council is pleased to make the [illegible] this Government Notification No. 4/88-Com., [illegible]

Amendments.

(a) *For* the word "form" in rule 9 under Chapter III of the rules for coal mines, *substitute* the word "forms".

(b) In the rules for coal mines in Chapter III, after rule 9, *insert* the following as rule 9A namely :—

"9A. At every mine in which women are employed underground, a statement shall be posted every day outside the office of the mine, showing in respect of the previous day, the total number of persons employed underground, the total number of women employed underground and the percentage of the total number of persons employed underground who are women."

(c) For the form of register of work persons under Schedule A of the rules for coal mines *substitute* the following forms :—

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement 6—*contd.*

Register of work persons employed on surface.

Sections 28 and 30 (f) *and* (k), *Indian Mines Act, 1923.*

Name of mine.................. ....

Name of owners................ ....

Name and caste.	Age and sex.	Father's name or in the case of a married woman or widow husband's name.	Nature of work.	Sunday.		Monday.		Tuesday.		Wednesday.		Thursday.		Friday.		Saturday.		Number of hours worked during the week ending 19 .
				In.	Out.	In	Out.	In.	Out.	In.	Out.	In.	Out.	In.	Out.	In	Out.	

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement 6—*concld.*

Register of work persons employed underground.

Sections 28 and 30 (f) *and* (k), *Indian Mines Act, 1923.*

Name of mine ... .

Name of owners............ . .. .

Name and caste.	Age and sex.	Father's name or in the case of a married woman or widow husband's name.	Nature of work.	Sunday.		Monday.		Tuesday.		Wednesday		Thursday.		Friday.		Saturday.		Number of hours worked during the week ending 19 .
				In	Out	In.	Out	In	Out.	In	Out.	In.	Out.	In.	Out	In.	Out	
Total number of persons employed underground																		
Total number of women employed underground.																		
Percentage of persons employed underground who are women.																		

A. CASSELLS,

Secy. to the Govt. of Bengal.

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 8—*contd.*

FORM A-1.

Register of work persons employed on surface.

Section 28 and 30 (f) *and* (k), *Indian Mines Act, 1923.*

Name of mine. ....

Name of owner.................... .. .

Name and caste.	Age and sex.	Father's name or in the case of a married woman or widow husband's name.	Nature of work.	Sunday.		Monday		Tuesday.		Wednesday		Thursday.		Friday.		Saturday.		Number of hours worked during the week ending 19 .
				In.	Out.	In	Out	In.	Out	In.	Out.	In.	Out.	In.	Out	In.	Out.	

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 8—*concld.*

FORM A-2.

Register of work persons employed underground.

Sections 28 and 30 (f) *and* (k), *Indian Mines Act, 1923.*

Name of mine . . . .

Name of owner .. . .

Name and caste.	Age and sex.	Father's name or in the case of a married woman or widow husband's name.	Nature of work.	Sunday		Monday		Tuesday.		Wednesday.		Thursday		Friday		Saturday.		Number of hours worked during the week ending 19 .
				In.	Out.	In	Out	In.	Out.	In.	Out.	In.	Out	In.	Out	In	Out	

By order of the Governor in Council,

N. J. ROUGHTON,

Financial Secretary to Government, Central Provinces.

APPENDIX IV—*contd.*

Miscellaneous—*contd.*

Statement No. 9.

GOVERNMENT OF MADRAS.

DEVELOPMENT DEPARTMENT.

G. O. No. 1755, 16th October 1929.

Mines—Indian Mines Act, 1923—Rule 20 A—Abstracts of Act, Regulations and Rules—Amendments—Published.

Read—the following papers :—

G. O. No. 457, Development, dated 15th March 1929.

„ No. 1064, Development, dated 25th June 1929.

Order No. 1755, Development, dated 16th October 1929.

The Superintendent, Government Press, is requested to publish the appended notification in English and in the vernaculars in the Fort St. George Gazette. He is also requested to supply the Senior Translator to Government with six copies of the notification.

NOTIFICATION.

[illegible]

AMENDMENTS.

In paragraph 1 of the abstract of the rules (for mines other than coal mines) prescribed by rule 20-A of the said rules—

(1) At the end of the second sub-paragraph the following shall be inserted, namely :—

"Every [illegible] be [illegible] whi[illegible] is situated within a municipality without a separate Health Officer, or in any area outside a municipality."

(2) For the third sub-paragraph, the following sub-paragraph shall be substituted, namely :—

"The latrine shall be so partitioned off as to secure privacy, and, if a latrine for the use of one sex adjoins a latrine for the use of the other sex, the approaches shall be separate."

(3) For the last sub paragraph, the following sub-paragraph shall be substituted, namely :—

"All latrines in or about a mine shall be kept in a sanitary condition."

(By order of the Governor in Council)

S. V. RAMAMURTI,
Secretary to Government

MGIPC—S5—VIII-5-31—27-10-30—1,300.